50 New Coil Cars For Southeast Shippers

March 13, 1961

RAILWAY AGE *weekly*

1956

Trailer Train rides to piggyback success with nation's largest fleet of 'standard' flatcars, expanding service and a boom in membership

TTX—FIVE YEARS OF FAST GROWTH

1961

Sixth year begins as company plans new cost-saving move for its 35 member lines

R
COMP
EDITORIAL DEPT
UNIV MICROFILMS INC
313 N FIRST ST
ANN ARBOR MICH

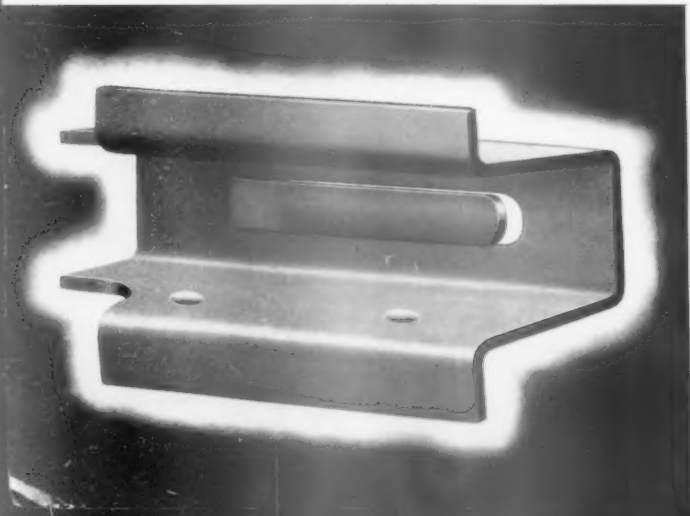
60 cents A Simmons-Boardman TIME-SAVER Publication

Buffalo Solid Truss Unit
Brake Beam Preferred
for top Unit performance

"The Pioneer"

BUFFALO-UNIT SOLID TRUSS BRAKE BEAM

From one pioneer to another, the Buffalo Brake Beam Company — Unit Truck Corporation congratulates the Trailer Train Company upon the fifth anniversary of their service to the American railroad systems. All T.T.X. cars are equipped with Unit Brake Beams thereby assuring dependable, trouble free operation. Trailer Train cars are proving that railroads can relieve the congested highways of the nation and give better economical service to the customers.



Buffalo-Unit Self-Centering Wear Plate. The *only* wear plate designed and produced by Buffalo-Unit for use on Unit Trucks

UNIT TRUCK

A DEVELOPMENT OF

BUFFALO BRAKE BEAM COMPANY
UNIT TRUCK CORPORATION

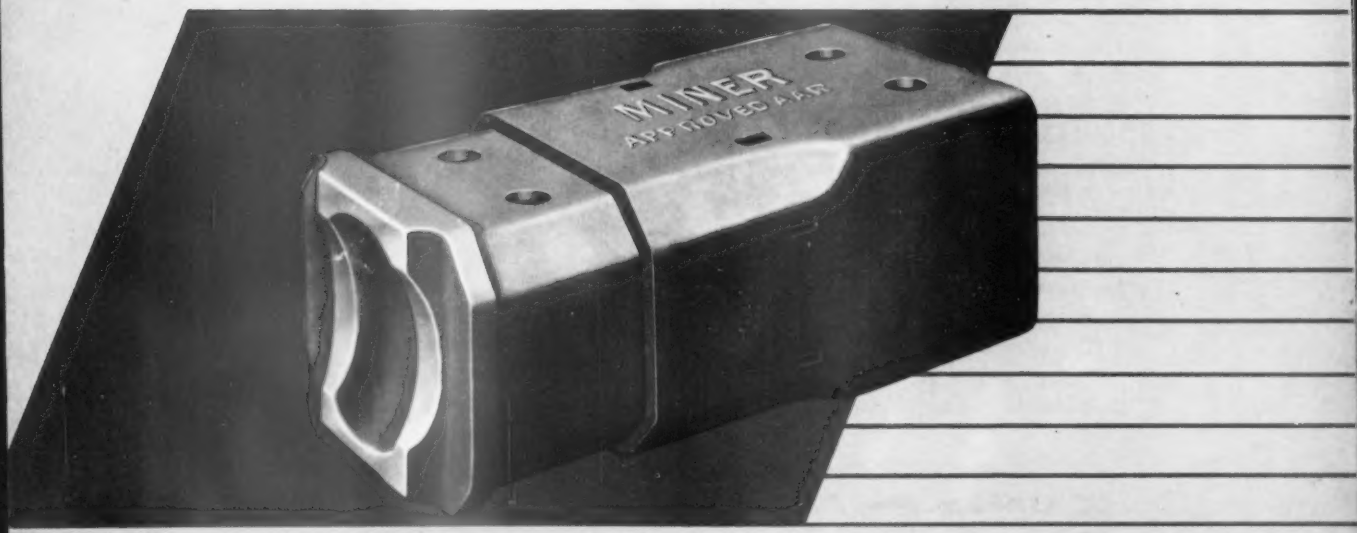
NEW YORK • BUFFALO • HAMILTON, ONT.

ON THE GO WITH

TRAILER **TT** TRAIN

MINER®

CLASS FR-19-F
RUBBER DRAFT GEAR



W. H. MINER, INC. CHICAGO

OFFICE OF FOREIGN OPERATIONS: 1212 Pennsylvania Bldg. • 425 Thirteenth St., N. W. • Washington 4, D. C. • U. S. A.

2,900 Miles to be controlled by new Union Traffic Control Centers

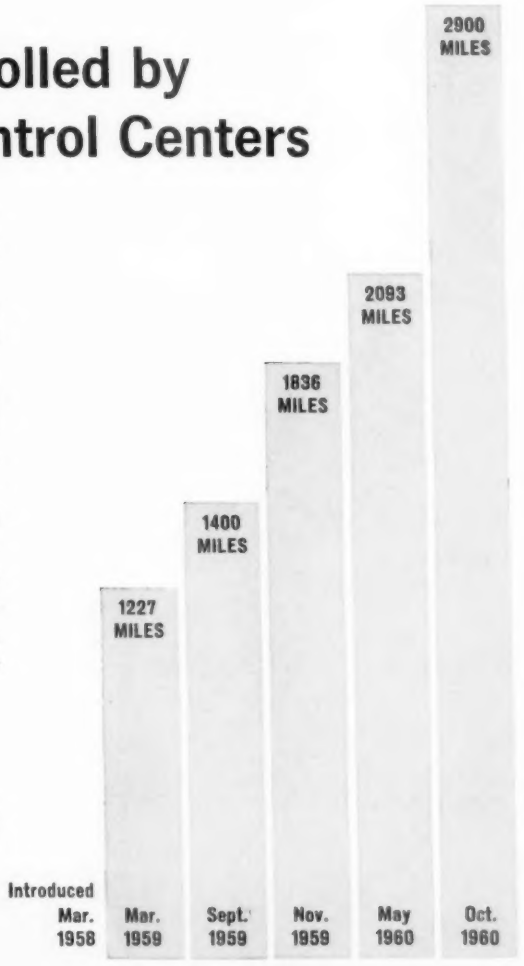
Since the new Union Traffic Control Center was introduced in 1958, thirteen railroads have ordered or put into operation 21 Traffic Control Centers.

These railroads are now or soon will be benefiting from the operating efficiencies of Union Switch & Signal Traffic Control Centers.

With Union Traffic Control Centers, railroads can consolidate the control of CTC in strategic locations and ultimately control an entire railroad from one point.

A TCC takes up much less space than a lever type machine. And it's flexible. A 9-foot basic control center can easily be expanded vertically and horizontally to accommodate additional track diagram modular units. A TCC can be applied to all types of interlockings, as well as to CTC, and can be used with any existing control system.

Contact your nearest Union Switch & Signal office or representative for full details about the TCC.



"Pioneers in Push-Button Science"

UNION SWITCH & SIGNAL

DIVISION OF WESTINGHOUSE AIR BRAKE COMPANY — SWISSVALE, PENNSYLVANIA

NEW YORK . . . PITTSBURGH . . . CHICAGO . . . SAN FRANCISCO

RAILWAY AGE *weekly* March 13, 1961 • Vol. 150, No. 11

Week at a Glance

Departments

Current Publications 58
Freight Carloadings 59
New Equipment 58
People in the News 53
Railroading After Hours ... 45
Railway Market 59
Revenues and Expenses 52
Supply Trade 54
The Action Page 66
Watching Washington 10
You Ought to Know 64

• Editorial and Executive Offices
New York 7, 30 Church St.

JAMES G. LYNE, Editor
ROBERT G. LEWIS, Publisher
JOE W. KIZZIA, Executive Editor
Managing Editor.....Fred C. Miles
News Editor.....Luther S. Miller
Traffic-Transportation...G. C. Hudson
Mechanical
C. L. Combes F. N. Houser, Jr.
Signaling & Communications
Robert W. McKnight Robert J. Barber
Associate Editors
Rod Craib Harry M. Grayson, Jr.
Librarian.....Edith C. Stone
Editorial Assistant.....June Meyer
Art Director.....Russell F. Rypsam
Design and Layout....Joel Petrower
Director of Research...J. W. Milliken
Production Manager..Joseph J. Menkes

• Chicago 3, 79 West Monroe St.
Western Editor.....Gus Welty
Regional News.....William V. Tuite
Mechanical.....Norman E. Gillespie
Engineering.....M. H. Dick
R. E. Dove E. W. Hodgkins, Jr.
Purchases & Stores.....Bert Enos
Editorial Assistant.....Wanda Brown

• Washington 4, National Press Bldg.
Washington Editor....Walter J. Taft

Railway Age, established in 1856, is indexed by the Business Periodicals Index the Engineering Index Service and the Public Affairs Information Service. Name registered in U.S. Patent Office and Trade Mark Office in Canada.

Published weekly by the Simmons-Boardman Publishing Corporation at 440 Boston Post Road, Orange, Conn. Second-class postage paid at the Post Office at Orange, Conn. James G. Lyne, chairman of the board; Arthur J. McGinnis, president and treasurer; Duane C. Salisbury, executive vice-president; George Dusenbury, vice-president and editorial and promotion director; Robert G. Lewis, Joe W. Kizzia, M. H. Dick, M. J. Figa, R. C. Van Ness, vice-presidents.

Rules board gets new chairman .....p. 9

Former Federal Judge Simon H. Rifkind has succeeded James P. Mitchell as head of the Presidential Railroad Commission studying work rules. He was appointed by President Kennedy after the railroads and the operating unions failed to submit a joint recommendation.

Truck tractors go by rail p.15

ACF's Cushion Cradle and Pullman-Standard's Protecto-frame-20 units have proved satisfactory in experiments with the long-haul movement of truck tractors.

Cover Story—Trailer Train rides to piggyback success p.16

The company, which operates the nation's largest fleet of railroad piggyback cars, observes its fifth anniversary this week. Reflecting the strength of its position is the birthday present approved for its members: a flat 5% across-the-board reduction in per diem and mileage rates.

Cover Story—Three RRs get 50 new coil cars p.24

The cars were designed to meet specific loading and unloading requirements of southeast steel mills and canners. Each car carries eight 20,000-lb palletized coils of tin plate.

How D&RGW cuts fueling time p.48

The road expects to cut costs substantially with a new automatic system for fueling diesel locomotives. The system, being installed on all the road's locomotives, will eliminate fuel tank overflow.

Soo Line rate argued at ICC p.51

Oral argument on the Soo's guaranteed rate followed quickly a Commission decision condemning a similar New York Central rate.

AREA views new equipment, explores engineering gains p.60

Sights were on the future as engineering officers gathered in Chicago last week. The keynote address called for "aggressive programs aimed at fitting railroad plant to current and prospective traffic levels."

The Action Page: TOFC—let's get on with it p.66

There is plenty of official and public support for going forward relentlessly to extend piggyback service. Also, there is every reason for railroads to push vigorously for extension of the service.

Week at a Glance

Current Statistics

Operating revenues	
12 mos., 1960	$9,514,294,066
12 mos., 1959	9,825,060,206
Operating expenses	
12 mos., 1960	7,565,318,548
12 mos., 1959	7,704,815,319
Taxes	
12 mos., 1960	998,799,249
12 mos. 1959	1,047,537,411
Net railway operating income	
12 mos., 1960	584,033,571
12 mos., 1959	747,773,934
Net income estimated	
12 mos., 1960	445,000,000
12 mos., 1959	578,000,000
Carloadings revenue freight	
8 wks., 1961	3,876,648
8 wks., 1960	4,678,308
Freight cars on order	
Feb. 1, 1961	18,894
Feb. 1, 1960	48,170
Freight cars delivered	
1 mo., 1961	3,515
1 mo., 1960	2,849

Advertising Sales Department

Duane C. Salisbury—director of sales

New York 7, N. Y., 30 Church St.,
WOrth 4-3060
J. S. Vreeland—vice president;
F. T. Baker—district manager;
J. C. Lyddy—district manager

Chicago 3, Ill., 79 W. Monroe St.,
RAndolph 6-0794
J. R. Thompson—vice president;
J. W. Crossett—district manager;
Hale Carey

Cleveland 15, Ohio, 1501 Euclid Ave.,
MAin 1-4455
H. H. Melville—vice president;
Daniel A. Denno

Pittsburgh 19, Pa., Suite 203, Carlton House
GRant 1-8186
C. J. Fisher—district manager

Atlanta 9, Ga., 22 Eighth St., N. E.,
TRinity 2-6720—J. S. Crane

Dallas 19, Tex., 3915 Lemmon Ave.,
LAkeside 1-2322—Joseph Sanders

Los Angeles 17, Cal., 1151 W. 6th St.,
HUntley 2-4000
Fred Klaner, Jr.

San Francisco 11, Cal., 916 Kearney St.
GArfield 1-7004
Lewis A. Vogler

Portland 5, Ore., Terminal Sales Bldg.,
CApitol 7-4993
Peter W. Klaner

London S. W. 1, England
TRafalgar 6318
67/68 Jermyn St., St. James's
Max F. Holsinger

Dusseldorf, Germany
Huttenstrasse 17, am
Ernst-Reuter-Platz
Max F. Holsinger

Tokyo, Japan
1, Kotohira-Cho, Shiba, Minato-Ku
George E. Olcott

Railroad employees' subscription rate: in U. S. possessions, Canada and Mexico, $4 one year, $6 two years, payable in advance and postage paid. To railroad employees elsewhere in the western hemisphere, $10 a year. In other countries, $15 a year. Single copies 60¢ except special issues. Address all subscriptions, changes of address, and correspondence concerning them to: Subscription Dept., Railway Age, Emmett St., Bristol, Conn.

Change of address should reach us three weeks in advance of next issue date. Send old address with new, enclosing, if possible, your address label. Post Office will not forward copies unless you provide extra postage.

Circulation Dept.: W. A. Cubbage, Circulation Manager, 30 Church St., New York 7, N. Y.

POSTMASTER—SEND FORM 3579 to EMMETT ST., BRISTOL, CONN.

Printed at the Wilson H. Lee Co., Orange, Conn.

Short and Significant

Acquisition of 100 new commuter cars . . .

at an estimated cost of $20 million is planned by the New Haven. Stockholders will be asked April 12 to approve purchase of 50 cars through the sale of equipment trust certificates or other financing; and lease of 50 cars from the Port of New York Authority under New York State's commuter-aid program.

Diversification-conscious L&N . . .

will ask stockholders April 5 to approve a charter amendment empowering the company to engage in "transportation by other forms of carrier such as highway, water, air, pipeline or conveyor belt."

The outlook is good for legislation . . .

that will bring "order, American-style equality and fair competition into transportation," says Holcombe Parkes, president of Railway Progress Institute. He's encouraged by what he views as general agreement among legislators that "something must be done about the mess we're in."

IC and SP are ready to accept . . .

all but one of the conditions which an ICC examiner said could permit approval, under existing law, of the two roads' bid to acquire the John I. Hay barge line. The disputed point: a recommended restriction of Hay's operations to movements having a prior or subsequent haul by rail or by highway service auxiliary or supplemental to rail service.

If the Commission looks at the case . . .

"in the light of the overall public interest," an officer of one of the roads said, "it's bound to come to the conclusion that this [prior or subsequent haul restriction] is an impossible condition." What about the other conditions laid down by the examiner? "We believe we can live with them."

PRR doesn't want to talk merger . . .

with the Erie-Lackawanna "at this time," Chairman J. M. Symes said last week. Mr. Symes' comment was prompted by Erie-Lackawanna's petition to the ICC for permission to intervene in PRR's application to the Commission seeking control of the Lehigh Valley. Erie-Lackawanna suggested that PRR's control proposal is part of a broad plan to integrate PRR, LV, Norfolk & Western, Nickel Plate and Wabash, and said it wanted to be included in any such unification.

HYATT'S taper freight bearing...

On time . . . time after time. Freight cars equipped with Hyatt taper bearings meet the demands of today's faster schedules. Railroad after railroad has found Hyatt to be the surest and most economical way to make shipping deliveries on time, all the time.

Operating costs go down sharply, too. The result? Hyatt Bearings cut delays to an absolute minimum. They reduce damage claims, and make more freight cars available more of the time. Delays for inspection and shop repairs drop . . . which means an important boost for operating profits. And a wonderful bonus of better customer relations comes with improved service.

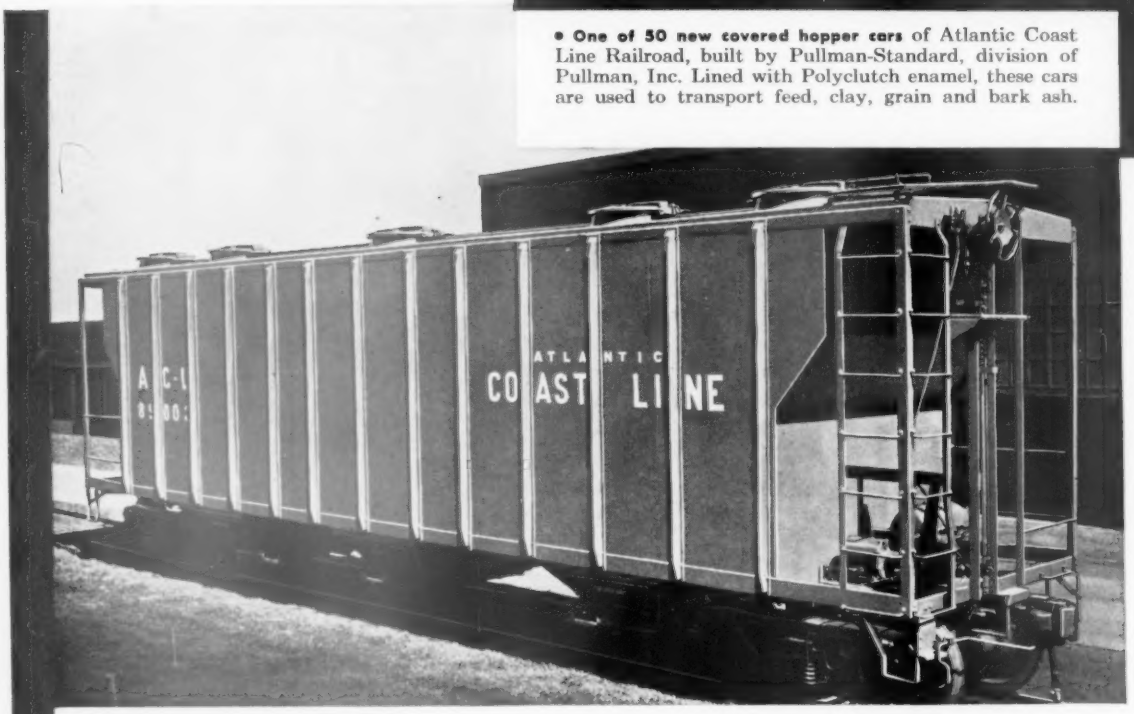
Hyatt has the answer to the Hot Box problem . . . an answer that is backed by years of research, engineering and extensive test facilities at General Motors.

Make the move to Hyatt now. Give your freight business a new lift. Specify Hyatt taper freight bearings for all new cars.

HYATT HY-ROLL BEARINGS FOR NON-STOP FREIGHT

GM GENERAL MOTORS

HYATT BEARINGS DIVISION • GENERAL MOTORS CORPORATION • HARRISON, NEW JERSEY



• One of 50 new covered hopper cars of Atlantic Coast Line Railroad, built by Pullman-Standard, division of Pullman, Inc. Lined with Polyclutch enamel, these cars are used to transport feed, clay, grain and bark ash.

Maintenance costs are low... loading and unloading fast... and contamination losses eliminated, when covered hopper cars are lined with Polyclutch®!

Reasons: (1) Polyclutch is an unusually tough, flexible type of finish, so it resists damage from impact, abrasion and cleaning. (2) It has a hard, non-porous surface which increases "slip and slide," prevents clinging, and speeds loading and unloading. (3) It's odorless, tasteless and non-toxic—approved by the United States Food and Drug Administration.

Other important details: Polyclutch is fast, easy and economical to apply, provides a uniform "holiday-free" finish by hot or cold spray, and fully protects *any* dry bulk cargo from sugar to paraformaldehyde powder. Atlantic Coast Line finds these advantages pay off. So will you. Write Pittsburgh Plate Glass Co., Industrial Finishes Div., 1 Gateway Center, Pittsburgh 22, Pa.

PPG®

PITTSBURGH® PAINTS

PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS • FIBER GLASS

PITTSBURGH PLATE GLASS COMPANY

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED

Rules Board Gets New Chairman

► The Story at a Glance: The Presidential Railroad Commission which is studying "featherbedding" now has a new chairman. He's Simon H. Rifkind, New York attorney and former federal judge. He was selected by President Kennedy as successor to James P. Mitchell after the railroads and "op" unions failed to submit the joint recommendation which the President invited.

Meanwhile, the commission continued last week the public hearings at which it is receiving management's presentation in support of the proposal that it be allowed to determine when firemen should be used on diesels and other non-steam locomotives in freight and yard service.

Simon H. Rifkind was expected to take over this week as chairman of the Presidential Railroad Commission appointed by former President Eisenhower to study the dispute over working rules applicable to operating employees. The appointment was announced in a White House statement which said President Kennedy "expressed his confidence that Mr. Rifkind would be an excellent leader of this important commission," and "expressed great pleasure that a man of Judge Rifkind's great competence and integrity would accept" the appointment.

The appointment came after the railroads and "op" unions advised the President that they could not get together on a joint recommendation. The White House told Railway Age that the parties "couldn't agree" so the President selected Judge Rifkind. The offer to appoint someone recommended jointly by the parties was made in the President's letter accepting the resignation of Mr. Mitchell who left to run for governor of New Jersey.

The White House announcement of the Rifkind appointment recalled that President Eisenhower had called creation of the commission "a landmark in the history of labor-management relations in the United States." Mr. Rifkind is the senior partner in the New York law firm of Paul, Weiss, Rifkind, Wharton and Garrison. He is a former judge of the U. S. District Court for the southern district of New York, and served as special master for the U. S. Supreme Court in the Colorado River litigation. He was born in 1901.

SIMON RIFKIND

Last week's hearing ran three days with the commission's vice-chairman, Russell A. Smith, presiding. There was also a field trip to Potomac Yard for the commission's public members. It has five such members, including the chairman, and 10 other members—five representing management and five representing the "op" unions.

Management's presentation last week

'Bits and Pieces' Transport Planning—An Editorial

President Kennedy has appointed a "Presidential task force" of a half-dozen or so specialists to survey and make recommendations on the nation's technical, economic and military objectives in the field of aviation. The operation has been given a name, "Project Horizon"—carrying an overtone of glamorizing propaganda. Nothing was said about any intention to correlate this aviation project with governmental plans for other kinds of transportation—highways, waterways, railroads, or pipelines.

In thus initiating another federal project concerned with only one form of transportation, President Kennedy is perpetuating a "bits and pieces" course of action by the federal government—which all recent inquiries into national transportation policy have criticized as a fundamental error. For example, a month-long conference of the National Academy of Science last August concluded that:

Transportation in the U.S. is "extravagant in terms of the resources of time, money, personnel, energy, materials and even the earth's atmosphere required to meet current needs. . . . The solution of these problems must stem from a clearer understanding . . . of *transportation, viewed as a composite system, made up of many sub-systems.* Those forms of transportation whose requirements coincide with those of the military—for instance, air transport—have benefited enormously from government research activity. In still other areas, such as railway transportation, the government has done nothing. The imbalance may be a cause for some concern in the future." [Emphasis supplied].

The Doyle report on national transportation policy, recently made to the Senate Committee on Interstate Commerce, recommends the establishment of a Department of Transportation at the cabinet level—to embrace, among other duties, the federal government's promotional activities in behalf of all forms of transportation—aviation being specifically included.

The Commerce Department pamphlet, Rationale of Federal Transportation Policy (by E. W. Williams and David Bluestone), observed that: "Lack of an economic balance in the development of the several forms of transportation is a major problem to which national policy must address itself."

Similar advice could be cited from other informed and disinterested sources—while there are no unbiased and competent authorities who favor the continuance of the present compartmentalized transportation planning by the federal government, with a separate promotional organization for each.

President Kennedy should ask his "Project Horizon" staff to mark time, until suitable arrangements have been made to subordinate such planning for specialized types of transportation, to the national interest in the well-being of transportation as a whole, in all its forms.

was featured by the testimony of J. J. McCool, assistant division superintendent, Reading. He had a lighted board showing the track layout in the busy Philadelphia area where commuter trains are operated with one man in the cab, and a motion picture showing how the Illinois Central's Chicago commuter service is likewise operated with only one man in the cab of the locomotive.

It was Mr. McCool's contention that these heavy traffic areas, with complex track layouts and signal masts with as many as nine indicators, were the places to measure the difference between operating with or without a fireman. His point was that if passenger train engineers can run alone in such territory there is no reason why a freight engineer needs a fireman by his side—either in such territory or anywhere else.

Other management witnesses heard last week included Walter L. More, vice-president, Santa Fe; H. E. Greer, secretary, Association of Western Railways; and two Pennsylvania operating-department supervisors—W. B. Suhrie and M. M. Quinn. Mr. More told of the Santa Fe's experience in operating trains without firemen, while Mr. Greer had figures indicating that freight engineers with firemen have poorer safety records than those who run alone.

Two days of hearings are scheduled for this week, when AAR Vice Presidents C. D. Buford and W. M. Keller will testify.

Meanwhile, the "op" unions continue to protest against the commission's public-hearing approach. They wanted the commission to get whatever information it needed through its own studies. While continuing the public hearings, the commission has directed its staff to arrange for some studies.

The latest "op" complaint came in a "news letter" which accused the railroads of giving only "lip service to the need for a thorough study of work rules" while "dumping an avalanche of statistics, exhibits and testimony on the commission." During the first six hearing days, the "avalanche," the "ops" said, produced a 5,954-page record.

On this basis, the "ops" calculated that 90 days of hearings (which the railroads said they would need) would produce a record of 89,280 pages. And they also calculated that it would take the commissioners 17 months of 22 working days just to read the carriers' case. Next Dec. 1 is now the deadline for completion of the commission's work, but the labor-management agreement on the study permits an extension of up to 90 days.

Watching Washington *with Walter Taft*

• **WAILS OF TRUCKERS** will resound at Congressional hearings on President Kennedy's highway-financing plan. The hearings are scheduled to get under way this week before the Ways and Means Committee of the House of Representatives.

THE PLAN is in the President's recent message giving Congress his recommendations for keeping the federal highway program financed by user charges on the pay-as-you-go basis. Generally, he recommends that big trucks be assessed a larger share of highway costs.

SPECIFICALLY, the President would increase annual license fees on trucks over 26,000 lb from $1.50 to $5.00 per 1,000 lb, increase the diesel fuel tax from 4 cents per gal. to 7 cents, raise the tax on tires, tubes and retread rubber, and retain at 4 cents per gal. the federal gasoline tax which is scheduled to drop to 3 cents July 1. Increase in the latter to 4½ cents, as recommended by former President Eisenhower, would be an acceptable alternative, the President says, but he considers his plan more equitable.

REACTION of American Trucking Associations came in a statement which called the President's message a "severe disappointment." There was no comment from the AAR, but the reaction there couldn't have been anything but favorable. The President's proposals are in line with what has been the railroads' position on highway finance. The American Automobile Association said the proposed increase in taxes on trucks would be "an approach toward a more equitable sharing of highway costs."

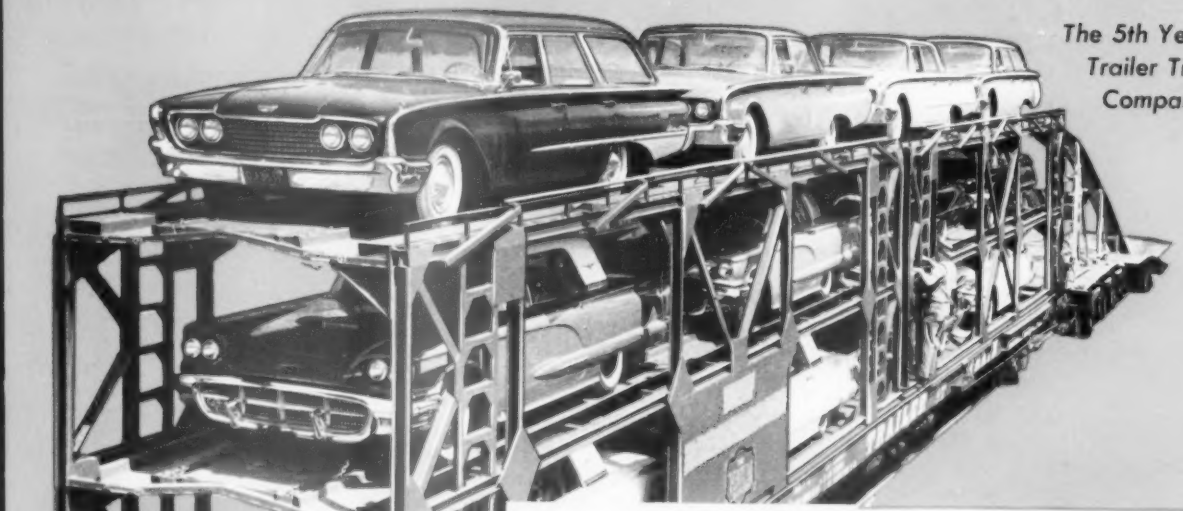
THE ATA STATEMENT referred to these proposed increases on trucks as "staggering," and complained that they would bring federal and state taxes on a five-axle diesel unit up to $3,464 per year. That would still be $130 less than the $3,594 assigned to a five-axle unit by the Bureau of Public Roads' Highway Cost Allocation Study.

THAT STUDY, and others like it, were relied upon by the President to support his proposals. He cited their showings that big trucks are "primary beneficiaries" of the federal system "in terms of ton-miles traveled," and that improved highways are benefiting operators of such trucks "many times as much as the average automobile driver."

THE PRESIDENT REJECTED proposals calling for financing part of the highway program by using general revenues of the government or issuing bonds. He sees "no justification" for the former course, and he calls the bond proposal "merely a device to avoid the appearance of deficits and evade the pay-as-you-go principle."

AN ESCAPE HATCH on which highway users have relied was closed by the President. His argument against using general revenues of the government includes specific rejection of the theory that some federal highway funds should come from "other beneficiaries," such as abutting property owners, roadside businesses, etc.

THE MESSAGE NOTES that the BPR study assigns only 8% of the program's benefits to these "other beneficiaries." Moreover, the basis for that part of the study "is open to serious challenge," the President says. He goes on to suggest that proponents of this theory might look to the states. They bear more than 8% of the program's cost, i.e., 10%, which they "are free to raise from nonusers if they choose."



The 5th Year — Trailer Train Company

50%

EXTRA PROTECTION *with* The WAUGH-GOULD TYPE 700 FRICTION-RUBBER DRAFT GEAR

COMBINING friction and rubber, the Waugh-Gould Type 700 Draft Gear is as modern as the Trailer Train cars shown above which carry auto racks, containers, trucks or trailers.

For the safeguard of 50% more protection than is afforded by conventional friction gears, specify Waugh-Gould Type 700 on your next draft gear order.

WAUGH EQUIPMENT COMPANY

NEW YORK • CHICAGO • ST. LOUIS • Canadian Waugh Equipment Company: Montreal

Trailer-Train goes "Roller

It's one thing to schedule a run of over 800 miles per day. It's another to make good on it, and Trailer-Train members can. To make sure of meeting their tight schedules, Trailer-Train cars are 100% on roller bearings. And better than half of these are on Timken® tapered roller bearings.

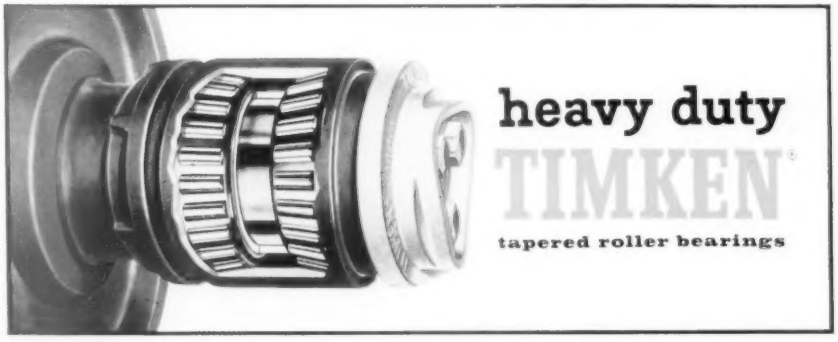
Trailer-Train made their first purchase of Timken bearing-equipped cars five years ago. The performance was so good they have added more every year until today they have 3,448 cars on Timken heavy-duty "AP" bearings.

With Timken bearings on their axles, Trailer-Train cars can roll hour after hour at passenger train speeds without fear of overheated bearings. Some of these cars cover 168,000 miles a year. And they spend less time in terminals because Timken bearings are inspected quickly.

Today 99 railroads and other freight car owners have over 73,000 cars on Timken bearings in service or on order. Now's the time to make the switch to "Roller Freight"— to give shippers even better service, to cut oper-

Freight" to eliminate delays

ating and maintenance costs. When all freight is "Roller Freight", America's railroads will save an estimated $288,000,000 annually—about $144 per car. And shippers will get better freight service than ever. The Timken Roller Bearing Company, Canton 6, Ohio. Cable address: "TIMROSCO".



GENERAL AMERICAN AIRSLIDE® CARS ...NOW MORE THAN 4500 IN SERVICE!

918 BUILT AND DELIVERED IN 1960 Demand for these highly efficient cars is big . . . and steadily growing. Introduced only 6 years ago, the AIRSLIDE car's reputation for safe, bulk shipment and speedy unloading has now made this car the standard for granulated and powdered materials. It is especially desirable for those materials which tend to bridge or pack or which do not normally flow by gravity.

HOW AIRSLIDE CARS HAVE BEEN RECEIVED BY INDUSTRY *Here are some of the commodities Airslide Cars are handling: Flour (Wheat, Oat, Semolina, Soya), Sugar (Beet, Cane, Corn), Starch, Chemicals, Plastic Powders, Weed Killers, Activated Carbon, Bentonite, Clay (phosphatic), Ores.*

If you are not already taking advantage of AIRSLIDE CARS, it will pay you to get complete data. Write today to:

Airslide® and Dry-Flo® Car Division

GENERAL AMERICAN TRANSPORTATION CORPORATION

135 South LaSalle Street
Chicago 3, Illinois
Offices in principal cities

AIRSLIDE GENERAL AMERICAN
TRADE MARK

TRUCK TRACTORS WERE LOADED in conventional highway saddle position and chained front and rear to Pullman-Standard's modified Protectoframe-20, which provides for longitudinal cushioning movement in both directions. Protectoframe-20 straddles the trailer hitch. Containers or trailers can be handled on return trip.

Truck Tractors Go by Rail

Experiments with the long-haul movement of heavy truck tractors on flat cars have been successfully carried out in test runs from Louisville, Ky., to Los Angeles, Calif. The shipments originated on the Louisville & Nashville.

Test shipments of five and six Ford trucks have been carried "saddleback" on 85-ft ACF and Pullman-Standard piggyback flat cars equipped with cushioning devices modified for handling trucks. Chained front and rear, the trucks arrived at destination in claim-free condition.

The ACF unit, called the Cushion Cradle, is a rubber and steel plate chevron type unit. ACF says it was designed to offer cushioning of ladings between 20,000 and 60,000 lb and provide 15 inches of travel in either direction. It also offers cushioning for trailers, containers, and other types of tiedown ladings.

The P-S unit, Protectoframe-20 (RA, May 9, 1960, p. 16), provides for 10 inches of cushioning movement in either direction. During the test run, it provided maximum cushioning frame travel of only three-and-a-half inches. This unit is also adaptable to other types of ladings.

No rates have been published for long-haul movement of heavy trucks, but a spokesman said it "should bring considerable savings" to the auto industry.

CHANNEL TYPE FRAME is lowered into place on the ACF car. The cushioning unit is already in place on the floor of the car. When the frame is attached, the unit is ready for truck tractors or, through use of tiedown mechanisms on the channel, other types of ladings.

WIDELY-USED 'ACF HITCH' was pioneered by TTX.

VERSATILE 85-FT CAR is basic unit in TTX fleet.

Trailer Train Rolls to Huge

J. P. Newell
TTX President

J. E. Wightman, Jr.
TTX General Manager

The Trailer Train Company, which operates the nation's largest fleet of railroad piggyback cars, will observe its fifth anniversary this week. Coincidentally, the company has approved a birthday present for its members.

Effective April 1, per diem and mileage rates on TTX cars are being reduced a flat 5% across-the-board. The move actually has nothing to do with Trailer Train's anniversary. What it does reflect is the company's strong position, a position it has reached despite the growing pains and swift expansion of half a decade.

To the 34 Class I railroads and one freight forwarder which comprise the TTX membership, the lower per diem and mileage charges will produce important cost savings. The average overall cost of a $15,000 85-ft flatcar has recently hovered around $7 a day to railroad member lines; the same car, given the same daily utilization, will now cost around $6.65.

This "rate reduction" is the first change Trailer Train has made in per diem and mileage charges since the company commenced operations. That such action can now be taken reflects several things: TTX's low-cost operation; favorable experience, to date, in equipment maintenance costs; continued high car utilization; prudent and careful purchasing practices; and, considering that TTX is not in business to make a profit for itself, the sound financial position of the company.

The decision to lower charges on TTX cars is not all that Trailer Train can talk about as it begins its sixth year of service in the piggyback field. The company's pace-setting growth record is a story in itself. In the past five years, member companies have jumped from two to 35. TTX's railroad member lines today represent 76.5% of the total Class I rail mileage in the country, compared with only 6% when the company opened for business. The Trailer Train car fleet has grown from the initial pool of 500 units to 6,279. Almost all the cars are less than five years old.

Trailer Train officers are inclined to pass quickly over such figures, however. As they see it, the company's major contribution during these first years has been the advancement of standardization in piggyback car design. The company decided early on the 85-ft car and pioneered its design and production; it participated in the development and testing of the now widely-used "ACF Hitch"; and it has held tightly to the idea that if piggyback is to continue to grow there must be a basic unit in the car fleet. That the idea is now widely accepted is indicated by two figures: TTX has acquired, to date, 4,876 cars of the 85-ft design. Non-member roads have concurrently ordered more than 1,600 identical cars for their own use.

Such a record might indicate that Trailer Train, once it moved to the 85-ft "basic" car, was no longer willing to change. Quite the contrary. Member companies—all represented by important officers on the TTX board of directors—are free to request equipment suited to their specific needs. And Trailer Train holds that if such equipment is compatible with the existing car fleet, and if there is definite need, it will meet such requests. TTX officers say, however, that suggestions for breaking away from the basic car concept have been rare.

Actually, the company itself recognizes that changes do occur and that today's good idea may be improved upon tomorrow. Now that the company has its cars operating from coast to coast and border to border it comprises a kind of national laboratory for testing new product ideas. One TTX officer puts it this way: "If a product proves itself on one of our cars, rolling up the mileage the way they do, it warrants serious consideration."

Another measure of the company's adaptability to new concepts, and its willingness to acquire new kinds of general purpose piggyback cars, was apparent in 1960. Pullman-Standard had introduced a new car for piggyback service called the Lo-Dek. In a matter of a few weeks Trailer Train purchased 219 of these units. General American Transportation Corp. made new headway on individual roads with its G85 car. Trailer Train ordered 50 G85's to add to its fleet. The Lo-Dek's are now in service and the G85's will be delivered this month. These cars will work alongside the hundreds of standard flats built by Pullman-Standard, ACF and Bethlehem.

Trailer Train sees no departure from its standardization concept in adding Lo-Dek's and G85's to its fleet. These cars, of course, are fully interchangeable among member companies; they present no problem in the matter of tiedown equipment; and they can be used for moving all types of trailer equipment—two trailers per car wherever the need prevails. Moreover, the

FIFTY G85 CARS will join the pool this month.

LO-DEK will handle auto racks or trailers.

Success in Five Years

lower-level floors on the new cars provide added inches for clearances when the cars are loaded. TTX officers consider this a useful hedge against further increases in trailer heights. Trailers have been getting "taller" for several years, and for some roads this may become critical sooner than trailer length.

While standardization consistently has been a TTX goal, and a contribution to piggybacking as well, it is not the only thing the company has to its credit. For example, TTX has proved that a member-owned national car pool is both practical and economical. It has also been an effective force in establishing uniform piggyback equipment charges among railroads generally; and, by virtue of the widespread use of its cars, the company has helped ease the equipment interchange problems which arose as more and more piggyback service became interline. (The percentage of interline movements of car-plus-trailer is still small in relation to total TOFC business. Many connecting lines still interchange only the trailers, and retain cars on their own lines.)

J. P. Newell, operating vice president of the PRR, is president of Trailer Train. Other TTX officers also are PRR officers, and matters which fall in such categories as finance, accounting, purchasing and law are handled by this PRR group. For example, J. S. Fair, Jr., the PRR's general manager of purchases and stores, doubles also as purchasing agent of TTX. Thus, Trailer Train, with its offices in Philadelphia, can draw at minimum cost on the talents available in nearby headquarters of one of its charter members.

The Trailer Train organization itself is small. Its two principal full-time officers are General Manager J. E. Wightman, Jr., and Chief Mechanical Officer J. H. Long. Day-to-day operations are assigned to a manager of car distribution, who is responsible for all TTX car movements; a manager of car service, who handles all matters pertaining to per diem and mileage rates, including billing and collecting; and a manager of accounting, who supervises the operating accounts but does not delve into the broader aspect of new equipment financing. The latter is handled by W. R. Gerstnecker, who doubles as treasurer of PRR and Trailer Train.

TTX has obviously made a place for itself in piggybacking in the past five years. With the members jointly pledging their credit behind new equipment purchases, the company has encountered no financial problems in expanding its car fleet to meet all demands—nor, for that matter, has there been any indication that TTX members ever will be called upon to pay anything more than the normal charges for equipment usage. The organization is set up on the basis that per diem charges will cover original equipment costs and mileage rates will provide maintenance funds in proportion to each railroad's use.

It is Trailer Train's job to keep its equipment busy, to have cars where they're needed, and to minimize empty car-miles. That this has been done, and well, is apparent from the forthcoming 5% reduction in charges. Moreover, TTX cars have consistently run up record mileages, outstripping ordinary freight cars around five-to-one.

This intensive utilization has not caused uncommon maintenance problems, however. There are several reasons why not. For one thing, TTX flatcars are used; they don't get a chance to stand idle and corrode. For another, proven specialty items of top quality are purchased in the first place. It is the policy of Trailer Train's mechanical and purchasing departments to buy consistently high quality on the grounds that any car which is going to run out a normal lifetime of mileage in four

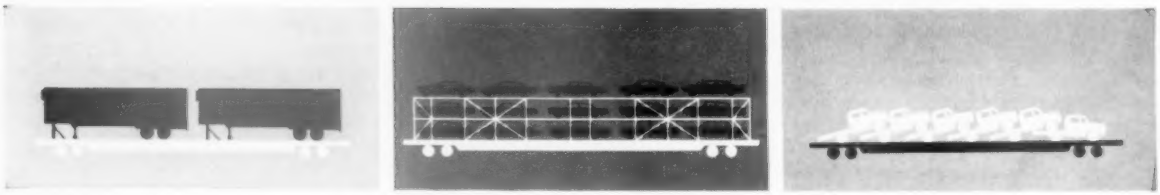
(Continued on page 19)

Trailer Train Equipment

TYPE SECUREMENT	50 FT	75 FT	85 FT	LO-DEK	G85	TOTAL
Jack & chain	0	192	0	0	0	192
Hitch	286	609	3,496	60	50	4,501
Hitch & container cushion	0	0	90	0	0	90
No hitch (for double or triple-deck auto racks)	0	0	234	0	0	234
No hitch, bridge plates or riser boards (for double or triple-deck auto racks)	0	0	1,056	179	0	1,235
No hitch—plus mobile van container casting	0	27	0	0	0	27
Total	286	828	4,876	239	50	6,279

first
second
third
fourth

Congratulations to
Trailer Train ...on the
completion of its **fifth**
year of progress



American Car and Foundry extends sincere good wishes to Trailer Train on this, its fifth anniversary. The excellent services Trailer Train has provided the entire industry over these productive years should be a source of pride to every member of the organization.
It is particularly gratifying to ACF that its 85′ Hitch Hiker flatcar and its Trailer Hitch have contributed to the rapid progress of Trailer Train. Although no one can predict what advances lie ahead, it is the earnest hope of ACF that it will be working closely with Trailer Train to help bring them about.
Congratulations on five progressive years!

American Car and Foundry Division
ACF INDUSTRIES
750 Third Avenue, New York 17, N. Y.

TTX ROLLS TO 5-YEAR SUCCESS (*Continued from page 17*)

years or so must be fitted with the best materials obtainable. The alternative is the prospect of having cars idled for shop work too much of the time, or at the wrong time. The fact that this has not happened is evidence that TTX's buying policies are soundly conceived.

Running repairs to Trailer Train cars are handled on-line by the using carrier on light-repair tracks. Billing for such work is carried out pursuant to regular AAR procedure. TTX has no repair or rebuilding facilities of its own.

Heavy repairs are another matter. In a cycling policy which began in 1960, a specified number of cars, depending on accumulated mileage, are scheduled for heavy repairs every four to five years—60 went through last year; 600 are docketed for work this year. The present plan for handling this work is to contract it. Again, this leaves the company free to assign the work on the basis of what may be most important at the time—price, quality of the work, location of the shop and the speed with which the repairs can be completed. In any case, this cycle program promises to produce a "like-new" car, unit for unit, every four to five years.

Staying ahead of rising equipment needs during the first half-decade has caused TTX to double and redouble its car ownership several times over. It has consistently obtained quick delivery on new orders, too, which has been helpful. But keeping the increasing membership supplied with flatcars has called for more than frequent car ordering.

The company keeps close tab on its equipment and the combination of per-diem-plus-mileage stimulates users to either keep the cars loaded and rolling or return them to the pool promptly. Per diem on 50-ft cars is $2.40 a day; on the 75-ft units, $3.60 per day; and on cars over 80 ft long, $4 a day. All will be cut 5% on April 1. Mileage charges, also to be reduced 5%, are running 3.3 cents a mile on 85-ft cars averaging less than 80 miles per day in a month. These charges grade down to a minimum of 1.47 cents a mile if the 85-ft unit averages more than 300 miles per day. Similar sliding scales apply to the shorter 50- and 75-ft cars.

These charges, worked out by a Trailer Train committee when the company began, have two advantages: they are high enough to meet TTX's needs; and they are low enough to allow user carriers room for profitable operation. The more miles the cars are run the more profitable they become.

But Trailer Train does not rely solely on these incentive charges to keep its equipment moving. There is constant follow-up from company headquarters to individual lines. Moreover, the company has an added angle written into membership contracts. It provides that if a TTX car is not used on a particular day, per diem for that day is cut one-half; after five days the carrier can route the car to a connection specified by Trailer Train and be rid of it; and if 15 idle days go by, TTX can order the carrier to release the car.

Such are the pricing and control policies of Trailer Train. Merchandising such information to prospective TTX members has been the company's primary sales job. Responsibility for such work is assigned Mr. Wightman.

As more and more carriers have joined, however, the TTX sales job has become relatively easier. Partly, it's a case of selling success; partly, the company's service now is widely known.

Mr. Wightman likes to mention a dozen advantages that a carrier obtains from joining Trailer Train. He cites, for example, new and modern equipment, standard in design; easy equipment adjustment to meet traffic fluctuations; minimum obsolescence through 15-year depreciation and programmed improvements, and the simplified terminal and interchange operations which are possible with pooled equipment. No cars are assigned to members by car number.

Few can question that Trailer Train has rung up an impressive record of success in the past five years. With piggyback operations continuing their growth in 1961, the company's officers expect TTX will continue its role as a partner in this growth. There are no new cars on order at the moment, but, in a reflection of the optimism to which it is now accustomed, the company's management is looking ahead to continued growth within the next two years.

Major Suppliers of Special Items for Trailer Train Cars

Alco Products, Inc.
American Abrasive Metals Co.
American Brake Shoe Co.
*American Car & Foundry Div., ACF Industries
American Forge & Mfg. Co.
American Name Plate & Mfg. Co.
American S. A. B. Co.
American Steel Foundries
Apex Railway Products Co.
Armco Steel Corp.
*Bethlehem Steel Co.
Birdsboro Steel Corp.
Buckeye Steel Castings Co.
Buffalo Brake Beam Co.
Central Railway Supply Co.
Chicago Railway Equipment Co.
Columbus McKinnon Chain Corp.
Crucible Steel Co.
Davis Brake Beam Co.
Dresser Mfg. Co.
Demp-Nock Co.
Du Pont, E. I., de Nemours & Co., Inc.
Edgewater Steel Co.
Ellcon-National, Inc.
Equipco Div., Union Asbestos & Rubber Co.
Ex-Cell-O Corp.
*General American Transportation Corp.
Gustin-Bacon Mfg. Co.
Hyatt Bearings Div., General Motors Corp.
Illinois Auto Electric Co.
Illinois Railway Equipment Co.
Koppers Co., Wood Preserving Div.
McConway & Torley Corp.
Henry Miller Spring & Mfg. Co.
W. H. Miner, Inc.
National Brake Co.
National Malleable & Steel Castings Co.
New York Air Brake Co.
Pittsburgh Forgings Co.
Pittsburgh Plate Glass Co.
*Pullman-Standard
S K F Industries
Schaefer Equipment Co.
Scullin Steel Co.
Standard Car Truck Co.
Standard Railway Equipment Div., Stanray Corp.
Standard Steel Works Div., Baldwin-Lima-Hamilton
A. Stucki Company
Symington Wayne Corp.
S. C. Taylor Chain Co.
Timken Roller Bearing Co.
Union Spring & Mfg. Co.
United States Steel Corp.
Universal Railway Devices Co.
Westinghouse Air Brake Co.

*Carbuilder and supplier of components.

239 CAR SETS ON THE TRAILER TRAIN

Newest in Piggy-

Rides on the latest ASF

New low profile ASF Ride Control Truck developed to order for Pullman-Standard's new Lo-Dek* Flat Cars.

ASF *Ride Control*® *Truck*

*Patents applied for.

AMERICAN STEEL FOUNDRIES . . .

Back Flat Cars

truck development!

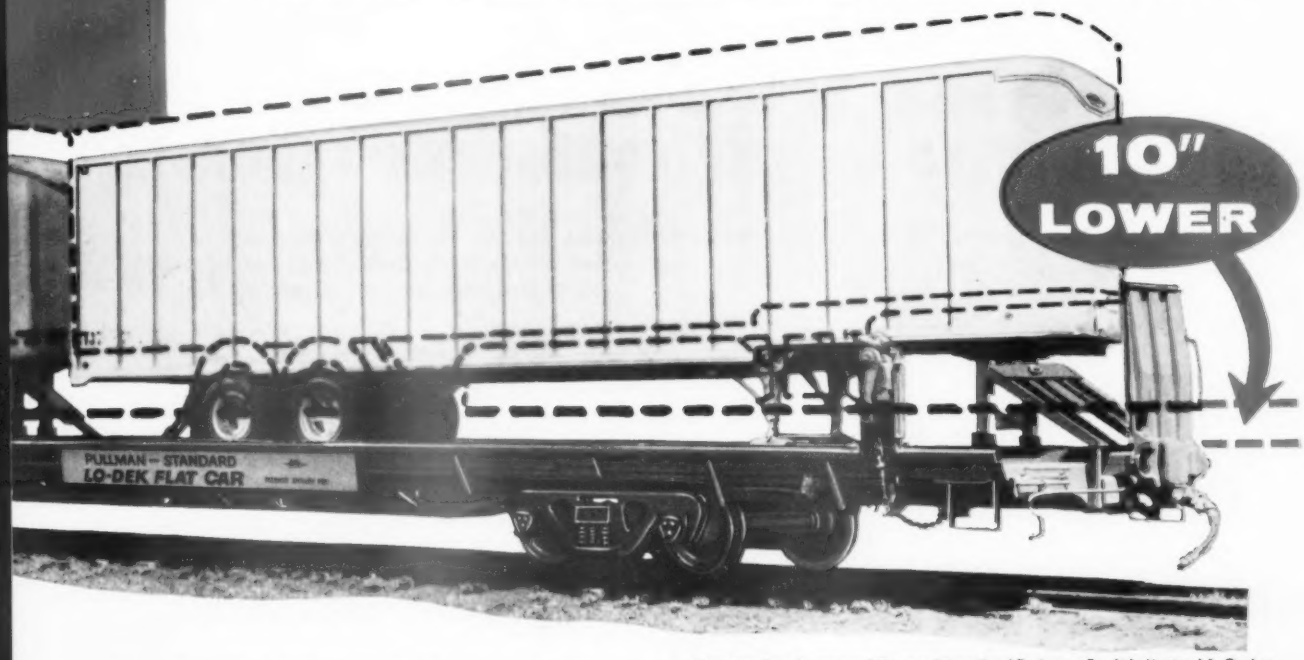
Special ASF Ride Control® Trucks assure best ride for goods in trailers aboard the new PULLMAN-STANDARD LO-DEK* FLAT CARS.

Development of this novel car by Pullman-Standard was greatly facilitated through the co-operation of ASF specialists in the development of the truck while Pullman-Standard engineers concentrated on the car structure. The truck so developed is a low profile variant of the one that made modern high speed freight service possible, the ASF *Ride Control* Truck.

A host of outstanding advances in railroad equipment owe their existence to ASF research and engineering. Included are scores of modern improvements in trucks, brakes, couplers, and other railroad running gear components. Many of these "better ways," like the new low-profile ASF truck, were developed to order for projects which would not have been feasible without them.

In fact, the specialized research and engineering facilities which serve ASF so well are always available to help our customers solve their problems. Write direct for further information.

This illustration shows the Lo-Dek Car in comparison with the dotted outline of a standard 85 foot car . . . a height reduction of 10 inches. This substantial difference should aid materially in overcoming low clearance limits which have handicapped or prevented Piggy-Back development in some areas.



▪ ▪ ▪ Prudential Plaza, Chicago 1, Illinois

Canadian Manufacturer and Licensee: International Equipment Co., Ltd., Montreal 1, Quebec
Other Foreign Sales: American Steel Foundries, International, S. A., Chicago

SEE FOR YOURSELF *why*

THE JACKSON TRACK MAINTAINER CONTINUES TO BE THE LONG-ODDS FAVORITE*

why THE JACKSON PROVIDES THE GREATEST SPEED COMPATIBLE WITH FINEST QUALITY TAMPING

why THE JACKSON TRACK MAINTAINER IS THE ONLY TAMPER PERFECTLY ADAPTABLE TO ALL CONDITIONS OF TRACK . . . conditions of ballast, lowest to highest lifts.

why THE JACKSON TRACK MAINTAINER OBTAINS THE LONGEST-LASTING GOOD-RIDING TRACK QUALITIES.

how FULL BENEFIT POTENTIALS OF THE MACHINE ARE ASSURED TO EACH USER BY JACKSON'S OUTSTANDING SERVICE ORGANIZATION.

Get all of the facts. Get details of our attractive acquirement plan.

*Ever since its inception, the nation's railroads have bought and used more JACKSON TRACK MAINTAINERS than the total of all other machines in their category.

R1-2

JACKSON VIBRATORS, INC.

LUDINGTON, MICHIGAN

IT WILL PAY YOU TO LEARN *why*

THE JACKSON MONORAIL TAMPER TOPS ALL OTHERS

why IT IS THE MOST VERSATILE . . . for spotting and smoothing . . . for those secondary programs which do not justify the investment or use of dual rail tamping machines.

why BALLAST PLACEMENT IS BOTH EXCEPTIONALLY RAPID AND THOROUGH.

why TRAVEL MOVEMENT FROM TIE TO TIE AND OPERATION OF WORKHEAD ARE EXTREMELY RAPID AND EASY TO CONTROL.

why TRANSFER TO OPPOSITE RAIL AND TURN-AROUND ARE ACCOMPLISHED QUICKLY AND WITH A MINIMUM OF EFFORT.

why IT IS PARTICULARLY ADAPTABLE TO SMALLEST GANGS.

how THE UNIQUE JACKSON SERVICE INSURES PROPER INSTALLATION AND MOST EFFICIENT USE OF THE MACHINE.

why TRANSPORTATION TO DESIRED LOCATIONS IS SO CONVENIENT AND SIMPLE.

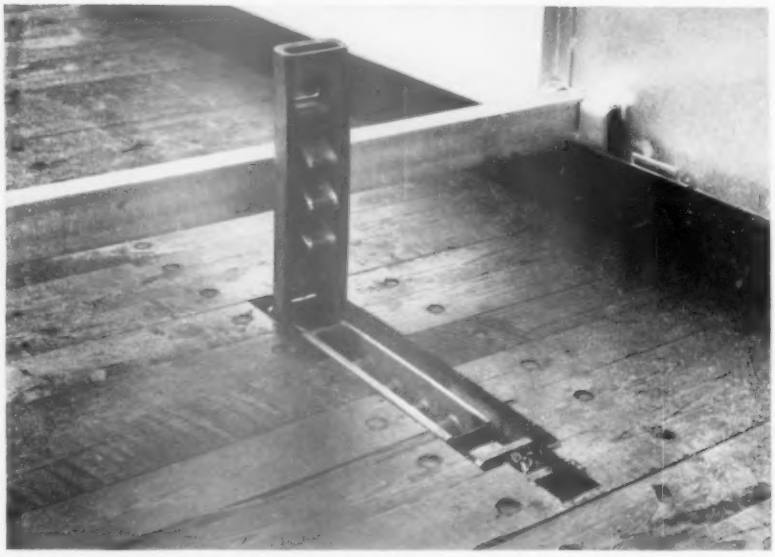
Get all the facts that make this the best buy in monorail tampers, and details of our attractive acquirement plan.

JACKSON VIBRATORS, INC.

LUDINGTON, MICHIGAN

PROTECTIVE HOODS on new cars are shown locked in place against bulkheads for an empty return movement. The hoods are equipped with wheels and roll on track angles on each side of the car.

Three RRs Get New Coil Cars



RESTRAINING DEVICE is open to receive preformed strapping. Bar in background can be removed when car is being loaded.

► The Story at a Glance: Steel mills and canners in the southeast are getting better service since three of the region's railroads purchased 50 new flatcars for hauling coiled tin plate. The cars use a loading method that is said to have withstood test impacts of as much as 14 mph without damage to lading. They may be loaded by overhead crane or fork lift truck, or both.

Fifty new flatcars are helping three railroads provide faster and more efficient service for steel mills and canners in the southeast. The cars, for hauling coiled tin plate, were designed to meet specific loading and unloading requirements of the mills and the canning industry.

Twenty of the cars were built for the Atlantic Coast Line, 5 for the Central of Georgia, and 25 for the Seaboard Air Line. Each car carries eight 20,000-lb palletized coils from Birmingham, Ala., mills to the Tampa, Fla., area. The cars—delivery of which was completed this week by the Thrall Car Manufacturing Co.—are similar to the Elgin, Joliet & Eastern tin plate cars placed in service last year (RA, Sept. 26, 1960, p. 30).

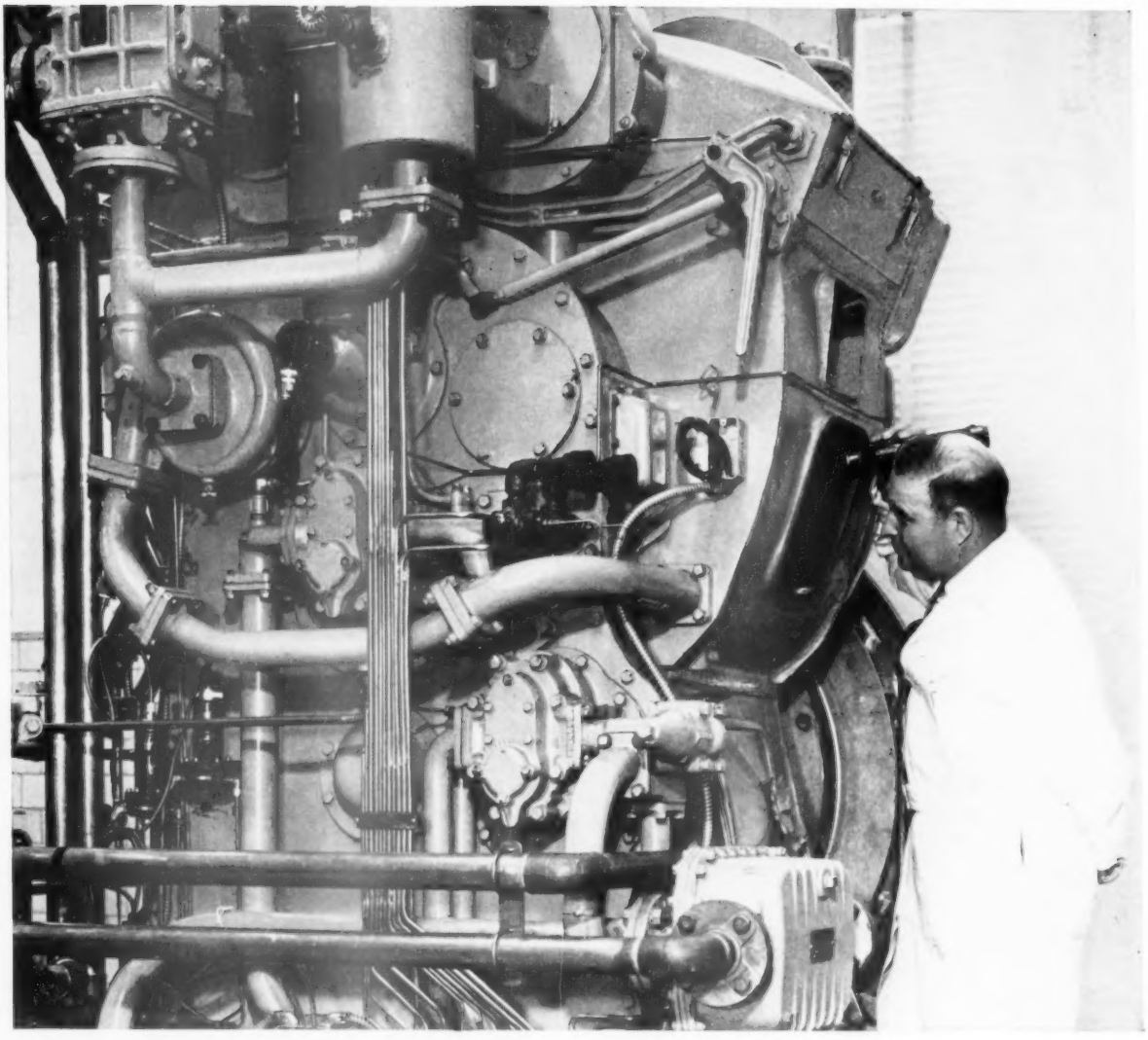
Four of the coils are placed at each end of the heavy-duty, all-welded cars. The coils are spaced under a metal hood for protection from weather. Parallel restraining devices flush with the car deck each snub a 40,000-lb load. Thrall engineers say this method of loading has withstood test impacts up to 14 mph with no damage to lading.

The cars are readily adaptable for

(Continued on page 28)

Principal Dimensions of Coil-Steel Cars

Length over end sills (ft-in.)	53- 6
Length over strikers (ft-in.)	54- 3
Length between bulkheads (ft-in.)	49- 6½
Truck centers (ft-in.)	43- 3
Truck wheel base (ft-in.)	5-10
Width over decking (ft-in.)	10- 0
Width over stake pockets (ft-in.)	10- 2¾
Height, floor to rail (ft-in.)	4- 0¼
Load limit, lb.	175,800
Light weight, lb.	75,800



"OLD RELIABLE"

THE ENGINE THAT TRAVELED A MILLION MILES TO NOWHERE

TESTING ESSO RAILROAD PRODUCTS!

"Old Reliable" is the name affectionately given to this heavy-duty diesel engine used by Esso Research for developing improved railroad fuels and lubricants. It is a two-cylinder version of the same type now used in the majority of American railroad locomotives.

As part of the extensive test facilities used by Esso Research, this elaborately instrumented diesel has run the equivalent of over a million miles in developing, testing, and improving the advanced line of Esso railroad products.

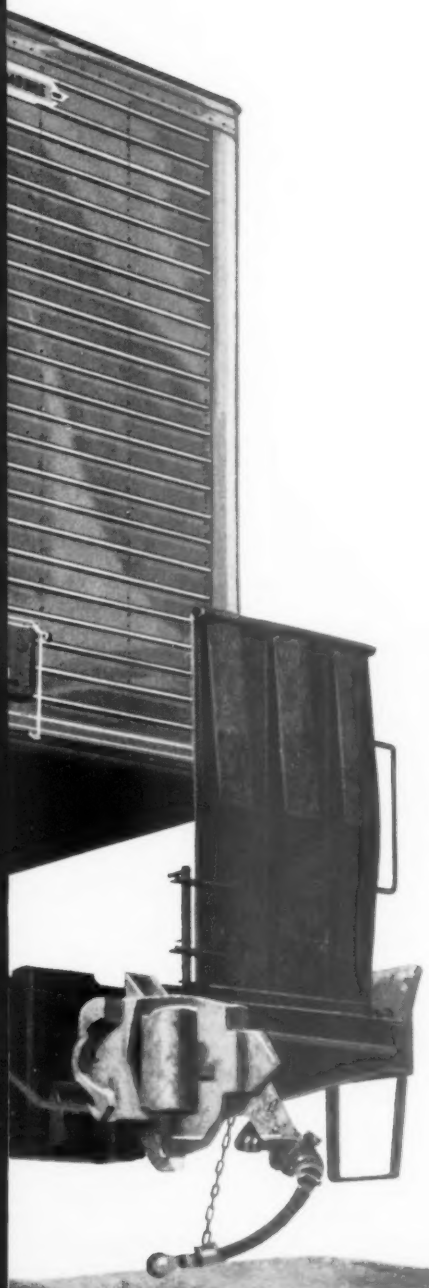
By such painstaking efforts Esso constantly strives to help railroads improve equipment performance and to help reduce maintenance costs.

Your Esso Representative adds a big "plus" of personalized service, backed by a system of conveniently located Sales Service Laboratories always ready to assist you with any lubrication problem. Give him a call, or write to us at 15 West 51st Street, New York 19, New York.

ESSO STANDARD, DIVISION OF
HUMBLE OIL & REFINING COMPANY

To spell success, add

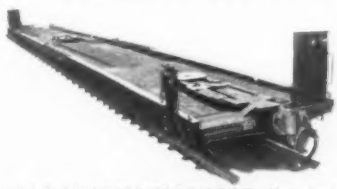
P.S to TT



Fifth anniversary finds Trailer Train expanding service, building a bigger market for rail service, helped by Pullman-Standard equipment

Trailer Train growth has been phenomenal in its five short years. They've grown from 2 to 35 members; from 6% to 76% of the nation's Class 1 rail mileage; from limited runs to border-to-border, coast-to-coast service; and from 500 to 6200 modern freight cars.

The importance of the rolling stock is obvious. There's no room for chance: dependability, from every point of view, is a must for Trailer Train. That's why Pullman-Standard PS-4PB and Lo-Dek Flat Cars have been selected for an important portion of Trailer Train Service.



P-S LO-DEK PIGGYBACK CAR—New design puts the deck height just 31 inches above the rail. Special high-strength steel keeps weight 30% lower than conventional flat cars.

PS-4PB PIGGYBACK FLAT CAR—New unitized construction joins underframe and body into one strong, all-welded structure for high-tonnage, high revenue hauling.

PULLMAN-STANDARD

A DIVISION OF PULLMAN INCORPORATED
200 SOUTH MICHIGAN AVENUE, CHICAGO 4, ILLINOIS
BIRMINGHAM, PITTSBURGH, NEW YORK
J. C. FENNELLY COMPANY, SAN FRANCISCO REPRESENTATIVE

HOOD in loading position, ready to receive coils. Flexible corded rubber fabric skirts are used at bottom edge of door and at the rear of the hood.

Partial List of Suppliers

Truck side frames and bolsters	American Steel Foundries
	Symington Div., Symington Wayne
Trucks, ride control parts	American Steel Foundries
	Standard Car Truck Co.
Roller bearings—AP 6½ by 12	Timken Roller Bearing Co.
Side bearings, double roller	A. Stucki
Brake beams	Buffalo Brake Beam Co.
Air brake	Westinghouse Air Brake
	New York Air Brake
Hand brakes	Universal Rwy Devices
Draft gear, MF-400	National Malleable &
	Steel Castings
Nichols load restraining device	Klasing Hand Brake
Wheels, axles	United States Steel
Yokes	American Steel Foundries
	McConway & Torley
Couplers	American Steel Foundries
	Symington Div., Symington Wayne
Truck springs	Union Spring & Mfg.
	American Steel Foundries
	Alco Products
Strikers and center fillers	Allied Steel Castings
Bearing adapters	National Malleable & Steel Castings
Slack adjusters	Westinghouse Air Brake
	New York Air Brake
Coil covers	Farrell Manufac uring

two-way loading. Stake pockets are available for tying down other types of loads, such as heavy farm equipment.

The flatcars are less expensive and load faster than box cars equipped with restraining devices, or covered gondola cars. The cars may be loaded by overhead crane or fork lift truck, or both. Canners prefer to unload the flatcars with fork lifts. For this reason, the car floor was made to the height of the unloading docks. Steel flooring was installed in the center of the car where the greatest wear from fork lift trucks occurs.

When the car is being loaded, the hoods are moved against the bulkheads at each end, and the hood doors are opened. Preformed strapping is threaded through the restraining device. The coils are completely packaged and strapped to a 52-in. pallet in the mill. They are lowered through the hood opening so that the dividing line between two adjacent coils parallel to the center line of the car is over each restrainer. A wooden spreader bar is placed over the top of two coils, and the strapping is tensioned and nailed in place.

The hoods, equipped with wheels, roll on track angles on each side of the car. After the load is in place, the removable bottom forward retaining bar in the hood is replaced, and the hood cover is closed and latched. Between the hood and the bulkheads when the car is loaded is a space of about 4 ft. Any impact-caused movement of the load is snubbed by the strapping moving through serrations in the restrainer. The hood moves along with the load. Adjustable counterbalance springs permit the door to be opened and closed by one man.

After the car is unloaded, the hoods are pushed back against the bulkheads. They are locked in place by the forward retaining bar which is moved back to a slot in the 7-in. leg of the 4 by 7 track angles. The hood wheels ride on the 4-in. leg of the angle.

The cars have fish-belly-design center and side sills. The center sill consists of two CB 301, 132-lb I-beams. Side sills are 26 in. deep at the fish-belly section and parallel the center sill. They are composed of ⅜-in. plate welded at the top and bottom to 8 by 6 by ⅝-in. angles. There are six 12-in. 20.7-lb, and two 9-in. 15-lb, channel intermediate cross-ties per car. The floor consists of 3 by 5½-in. square edge white oak decking. The Armco nailable steel floor at the center of the car is 10 ft 8 in. long.

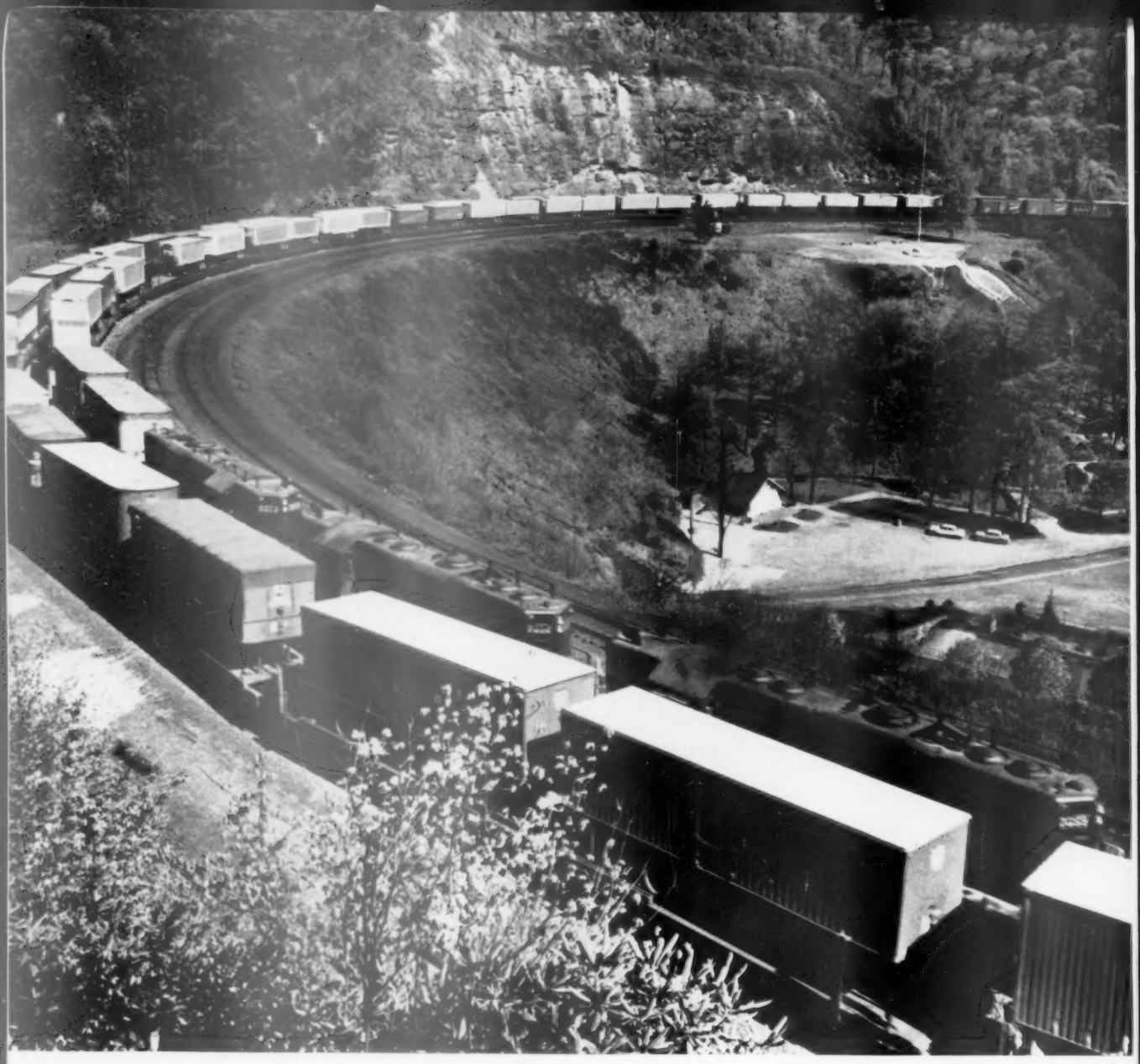
IMPROVED ONE-PIECE WEAR EQS® WHEEL

NOW APPROVED FOR SHIPMENT AFTER JANUARY 1ST

Can be turned on both flange and tread to restore full contour. (Minimum 1¼" back rim.) • Special-design parabolic plate distributes stress evenly. • All present standard AAR gauges can be used. • New design permits greater wear while retaining long sweeping fillets under flange and rim for greater strength. • Only two tape sizes. (Actually, most Griffin Wheels are within two half tape sizes!) Perfectly round as cast . . . no machining required. Tolerances are accurate to 20 thousandths of an inch.

GRIFFIN EQS ELECTRIC QUALITY STEEL

GRIFFIN WHEEL COMPANY, 445 North Sacramento Boulevard, Chicago 12
GRIFFIN STEEL FOUNDRIES, LTD., St Hyacinthe, Quebec; Transcona, Manitoba, Canada



SIGNS OF THE TIMES ON HORSESHOE CURVE . . . two trains of strictly modern vintage sweep westward 'round the Pennsylvania's storied bend above Altoona. More than half of all piggyback flat cars bear the now-familiar double "T" of Trailer Train.

QUALITY CONTROL ON A TTX CAR . . . weld inspection is just one of many phases of quality-control in Bethlehem's freight-carbuilding program. Weld-prober has just cut small weld specimen (foreground) from buttweld in center sill cover plate, with which inspector can check weld quality.

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

Export Sales: Bethlehem Steel Export Corporation

BETHLEHEM STEEL

Trailer Train's 5 years have been big years of piggyback progress

IN 1884

The piggyback freight idea goes well back into railroad history. In 1884, an eastern railroad wheeled farmers' produce-laden wagons onto flat cars for shipment into the city. Then, as now, the wagons were end-loaded onto strings of cars by means of ramps which were crude versions of those in use today.

IN 1954

Modern piggybacking started to roll when Bethlehem built the first of the king-size flat cars: 200 for the Pennsylvania, 50 for the Erie. Designed to haul two 35-ft trailers each, these cars are 75 ft long, equipped with roller-bearing axles.

IN 1956

Trailer Train (TTX) was born. Trailer-on-flat-car service was catching on fast, and Trailer Train swiftly moved with the tide. In five dynamic years, TTX grew to its present position of outstanding leadership.

TODAY

TTX continues to expand its fleet. Just recently it took delivery of the final shipment of an order for 125 Bethlehem-built 85-ft cars equipped as shown to accommodate the fast-growing transport of new autos by rail. Long strings of cars like these, traveling on passenger train schedules, are playing an important part in bringing this traffic back to the railroads. One expert predicts that in five years or so piggyback freight will rush from coast to coast in 48 hours.

Bethlehem congratulates Trailer Train on its momentous fifth birthday, and looks ahead to many more such anniversaries to come.

BETHLEHEM STEEL

for Strength
. . . Economy
. . . Versatility

Steel

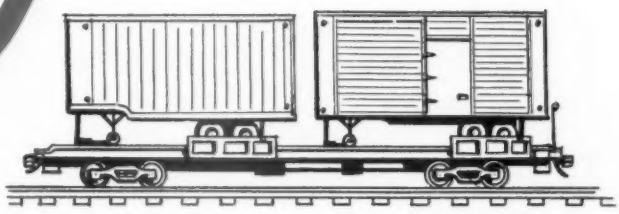
REVENUES AND EXPENSES OF RAILWAYS

(Dollar figures are stated in thousands; i.e., with last three digits omitted)

MONTH OF DECEMBER AND TWELVE MONTHS OF CALENDAR YEAR 1960

Name of Road		Average mileage operated during period	Operating Revenues: Freight	Operating Revenues: Pass.	Operating Revenues: Total (inc. misc.) 1960	Operating Revenues: Total (inc. misc.) 1959	Operating Expenses: Maint. Way and Structures: Deprec and Retirements	Operating Expenses: Maint. Way and Structures: Total 1960	Operating Expenses: Maint. Way and Structures: Total 1959	Operating Expenses: Maint. Equipment: Deprec. and Retirements	Operating Expenses: Maint. Equipment: Total 1960	Operating Expenses: Maint. Equipment: Total 1959	Operating Expenses: Traffic	Operating Expenses: Transportation	Operating Expenses: Total 1960	Operating Expenses: Total 1959	Operating ratio: 1960	Operating ratio: 1959	Net from railway operation	Railway tax accruals	Net Railway operating income: 1960	Net Railway operating income: 1959
Akron, Canton & Youngstown	Dec.	171	357		367	462	50	57	6	75	73	16	42	147	359	385	97.8	83.5	8	8	—13	13
	12 mos.	171	5,649		5,800	5,868	661	697	68	929	888	189	551	1,876	4,578	4,496	78.9	76.6	1,222	740	342	366
Alabama, Tennessee & Northern	Dec.	234	220		254	325	5	84	6	9	114	6	4	81	101	304	89.8	93.7	153	Cr.12	185	28
	12 mos.	234	2,765		2,837	3,431	606	632	77	147	365	68	54	1,005	1,854	2,163	65.3	63.1	984	107	787	1182
Atchison, Topeka & Santa Fe	Dec.	12,996	40,585	3,710	51,028	55,302	6,702	7,308	1,042	9,928	10,412	2,616	1,520	19,236	39,990	41,038	78.4	74.2	11,038	6,497	3,991	6,082
	12 mos.	12,972	514,079	40,063	614,017	633,836	80,057	81,022	9,681	125,921	125,977	29,858	17,121	229,827	482,070	477,527	78.5	75.3	131,947	78,049	43,744	59,557
Atlanta & St. Andrews Bay	Dec.	81	248		254	315	24	30	3	27	31	8	7	67	137	146	54.0	46.3	117	45	41	54
	12 mos.	81	3,456		3,520	3,988	375	465	42	341	369	95	88	883	1,951	2,069	55.4	51.9	1,570	675	447	621
Atlanta & West Point	Dec.	93	212	22	309	332	44	52	14	49	50	15	18	123	257	262	83.3	78.8	52	17	4	35
	12 mos.	93	2,793	262	3,672	3,815	476	505	100	594	625	171	218	1,559	3,116	3,213	84.9	84.2	555	210	9	196
Western of Alabama	Dec.	133	250	20	329	352	42	38	17	54	54	20	21	134	274	277	83.5	78.7	54	36	14	29
	12 mos.	133	3,180	242	3,910	4,185	536	587	124	689	706	228	258	1,651	3,407	3,441	87.1	82.2	503	402	65	237
Atlantic Coast Line	Dec.	5,570	10,465	1,294	13,515	14,556	1,352	1,453	213	2,366	2,488	429	518	5,255	10,441	10,948	77.2	75.2	3,085	1,450	1,312	753
	12 mos.	5,573	134,389	14,796	162,245	162,468	20,576	22,414	2,142	29,896	29,526	8,081	6,118	64,322	130,444	131,110	80.4	80.7	31,800	15,625	9,877	9,988
Baltimore & Ohio	Dec.	5,910	22,896	1,583	27,948	35,072	3,196	3,672	523	4,775	7,207	1,024	931	13,275	24,143	28,836	86.4	82.2	3,805	Cr.415	1,426	3,016
	12 mos.	5,909	340,022	15,884	389,403	395,179	41,502	43,546	6,115	73,033	73,431	12,715	11,250	171,409	320,224	321,012	82.2	81.2	69,178	26,116	15,197	28,051
Staten Island Rapid Transit	Dec.	29	140	98	243	289	66	77	12	47	56	1	2	167	314	333	129.4	115.5	—71	70	—163	—115
	12 mos.	29	1,920	1,096	3,103	3,357	735	699	151	553	492	15	26	1,855	3,550	3,540	114.4	104.4	—447	632	—1,317	—1,002
Bangor & Aroostook	Dec.	596	1,064	18	1,132	1,216	199	242	25	341	261	109	37	337	1,002	958	88.5	78.8	130	97	107	81
	12 mos.	597	12,737	231	13,558	13,191	3,126	3,110	266	3,337	3,274	1,312	410	4,102	11,941	11,845	88.1	89.8	1,617	1,221	1,754	1,434
Bessemer & Lake Erie	Dec.	203	639		687	2,179	462	398	121	258	684	—302	36	366	1,182	1,927	172.0	88.4	—495	Cr.36	—173	326
	12 mos.	203	22,234		23,062	20,409	3,465	3,684	401	7,415	7,564	806	437	5,524	18,908	18,811	82.0	92.2	4,154	4,830	3,604	2,935
Boston & Maine	Dec.	1,556	4,212	505	5,086	5,632	718	1,035	124	941	1,006	172	151	2,554	4,688	5,602	92.2	99.5	398	518	—830	—929
	12 mos.	1,556	56,576	5,873	67,645	71,995	7,729	9,242	1,791	10,254	10,417	2,851	1,897	29,578	53,565	56,566	79.2	81.3	14,080	5,685	1,732	1,219
CPK Lines in Maine	Dec.	234	641	56	727	761	80	74	20	96	114	18	16	186	411	450	56.5	59.1	316	36	207	193
	12 mos.	234	6,863	543	7,746	7,924	1,133	1,432	243	1,026	1,273	210	237	2,074	4,825	5,438	62.3	68.6	2,921	401	1,605	1,193
Carolina & Northwestern	Dec.	284	230		235	374	44	10	8	31	28	21	6	83	180	148	76.7	39.5	55	Cr.69	86	65
	12 mos.	284	3,139		3,206	3,649	396	514	87	353	370	252	66	932	1,918	2,114	59.8	57.9	1,288	103	657	583
Central of Georgia	Dec.	1,745	2,973	109	3,426	3,719	555	389	53	669	749	192	162	1,484	3,070	3,009	89.6	80.9	356	259	76	379
	12 mos.	1,745	37,693	1,420	41,798	44,156	6,469	6,470	583	8,652	8,598	2,308	2,042	17,403	36,953	37,002	88.4	83.8	4,846	3,325	1,535	3,988
Central of New Jersey	Dec.	593	3,124	475	4,053	4,443	653	862	174	603	730	109	85	2,161	3,713	4,170	91.4	93.8	349	495	—596	—271
	12 mos.	593	40,657	5,677	51,270	52,625	5,841	6,220	1,237	7,435	9,161	862	894	25,392	42,316	44,713	82.5	85.0	8,954	6,010	—1,444	343
Central Vermont	Dec.	375	602	62	764	946	172	175	24	107	94	9	23	345	739	693	96.7	73.2	25	51	—121	109
	12 mos.	375	8,232	603	9,667	10,580	2,197	2,577	223	1,336	1,279	112	230	4,136	8,556	8,797	88.5	83.1	1,111	671	—883	—311
Chesapeake & Ohio	Dec.	5,091	22,924	609	24,996	29,918	4,032	3,915	494	5,453	5,406	1,959	1,017	10,342	22,765	23,102	91.1	77.2	2,231	Cr.300	2,657	4,385
	12 mos.	5,119	318,807	6,100	343,522	347,594	42,032	40,345	5,800	63,634	60,957	22,892	10,228	128,788	264,890	259,066	77.1	74.5	78,633	33,515	48,405	54,940
Chicago & Eastern Illinois	Dec.	862	2,080	234	2,577	3,088	371	383	32	475	592	151	147	1,113	2,251	2,388	87.3	78.6	326	227	—166	301
	12 mos.	862	28,926	2,144	34,370	36,360	4,403	4,287	373	6,373	6,238	2,054	1,673	14,292	28,866	28,521	84.0	78.4	5,504	2,830	304	2,513
Chicago & Illinois Midland	Dec.	121	625		645	685	28	49	7	138	113	24	35	168	415	377	64.3	55.0	230	130	86	128
	12 mos.	121	7,310		7,489	7,465	857	501	99	1,374	1,218	280	367	1,891	4,764	4,377	63.6	58.6	2,725	1,530	1,053	1,247
Chicago & North Western	Dec.	10,719	12,606	1,406	15,181	17,485	2,549	3,224	132	3,037	2,912	1,143	646	7,502	14,851	15,958	97.8	91.3	330	1,485	—2,208	—293
	12 mos.	10,675	193,170	17,457	224,494	234,383	36,448	38,128	4,617	39,217	39,931	13,529	8,029	94,812	192,461	200,750	85.7	85.7	32,052	18,449	—377	4,393
Chicago, Burlington & Quincy	Dec.	8,648	15,894	1,868	20,598	22,615	2,520	2,801	674	3,644	3,620	1,094	640	8,950	16,795	17,032	81.5	75.3	3,802	1,848	1,321	2,207
	12 mos.	8,659	202,493	21,431	251,136	263,073	34,085	36,162	5,110	46,415	48,757	13,102	7,568	103,168	203,952	209,875	81.2	79.8	47,184	25,178	16,632	19,442
Chicago Great Western	Dec.	1,469	2,199	9	2,481	2,842	353	411	42	363	400	131	122	974	1,925	2,019	77.6	71.0	555	181	122	268
	12 mos.	1,469	29,996	100	32,568	34,160	4,445	4,963	581	5,124	4,997	1,550	1,465	11,816	23,941	24,086	73.5	70.5	8,627	3,122	2,257	3,550
Chic., Milw., St. Paul & Pac	Dec.	10,596	13,996	1,854	17,662	19,775	2,528	2,594	486	3,129	3,191	873	496	7,743	14,887	15,812	84.3	80.0	2,775	1,474	272	1,628
	12 mos.	10,597	189,561	15,175	230,363	242,042	33,692	37,430	5,226	39,949	41,863	10,613	6,581	93,769	187,930	198,852	81.6	82.2	42,433	20,137	9,654	13,651
Chicago, Rock Island & Pacific	Dec.	7,527	12,665	1,703	16,486	17,538	1,907	2,027	337	2,576	3,001	461	478	7,327	13,306	13,939	80.7	79.5	3,180	256	1,115	1,778
	12 mos.	7,533	174,079	16,735	211,776	219,454	27,863	28,433	3,309	35,734	38,188	7,569	6,492	87,996	169,785	172,774	80.2	78.7	41,991	16,604	8,341	11,844
Clinchfield	Dec.	293	1,656		1,662	1,766	149	180	26	312	320	107	72	421	1,024	1,088	61.6	61.6	637	210	521	1,364
	12 mos.	293	19,817	1	19,923	21,055	2,259	2,571	271	3,882	3,865	1,273	820	3,198	12,996	13,301	65.2	63.2	6,927	2,449	6,037	7,771
Colorado & Southern	Dec.	712	862	60	1,159	1,485	195	147	14	197	225	81	38	558	1,056	1,070	91.2	72.0	103	46	59	206
	12 mos.	712	12,465	938	15,395	15,893	2,307	2,793	257	2,565	2,816	987	416	6,693	12,872	13,507	83.6	85.0	2,523	1,499	896	784
Ft. Worth & Denver	Dec.	1,362	1,751	157	2,250	2,333	440	245	73	286	280	37	72	909	1,840	1,688	81.8	72.3	409	289		175
	12 mos.	1,362	20,769	1,781	25,376	26,708	3,870	4,024	433	3,139	3,535	544	857	10,865	19,803	20,567	78.0	77.0	5,574	1,664	764	1,105
Colorado & Wyoming	Dec.	39	83		175	467	27	19	2	48	31	12	2	88	182	226	103.8	48.4	—7	3	—11	96
	12 mos.	39	1,857		3,453	3,371	249	214	30	379	386	156	25	1,386	2,254	1,983	65.3	58.8	1,198	765	381	477
Delaware & Hudson	Dec.	765	3,103	147	3,348	4,002	494	484	134	685	798	199	114	1,354	2,847	3,147	85.0	78.6	501	Cr.1,860	2,372	661
	12 mos.	763	40,211	1,852	43,287	46,181	5,251	5,063	843	9,129	8,535	2,384	1,292	16,481	35,269	35,374	81.5	76.6	8,018	2,092	6,575	6,361
Delaware, Lack. & Western	Dec.	See Erie-Lackawanna																				
	12 mos.																					
Denver & Rio Grande Western	Dec.	2,128	6,018	221	6,485	6,476	440	548	83	904	964	335	226	1,939	3,817	3,981	58.9	61.5	2,668	1,561	1,277	1,144
	12 mos.	2,128	70,783	2,976	76,316	75,397	7,966	8,535	1,147	11,513	11,299	3,937	2,818	24,528	50,555	50,550	66.2	67.0	25,762	14,841	10,979	11,196
Detroit & Toledo Shore Line	Dec.	50	498		562	690	41	70	4	74	68	24	24	206	366	430	65.2	62.3	196	39	101	70
	12 mos.	50	6,375		6,915	7,706	637	733	47	866	958	290	247	2,654	4,616	4,936	66.8	64.1	2,299	791	448	585
Detroit, Toledo & Ironton	Dec.	465	1,435		1,487	2,151	159	235	34	327	450	152	57	497	1,120	1,382	75.3	64.3	367	118	297	616
	12 mos.	465	19,234		20,311	21,628	2,635	2,931	341	4,948	4,962	1,813	693	6,034	15,457	15,694	76.1	72.6	4,853	1,457	3,441	4,217
Duluth, Miss. & Iron Range	Dec.	574	425		529	3,040	604	477	135	1,302	741	219	15	719	2,715	3,457	513.2	113.7	—2,186	Cr.1,732	—491	—71
	12 mos.	575	39,923	13	46,953	32,396	6,707	5,677	1,002	8,685	6,987	2,540	163	14,976	33,846	29,578	72.1	91.3	13,107	7,601	5,360	152
Duluth, So. Shore & Atlantic	Dec.	543	282	2	314	443	95	102	9	104	108	26	34	182	440	479	140.1	108.1	—126	50	—168	—341
	12 mos.	544	6,156	28	6,572	6,856	1,273	1,353	144	1,309	1,312	314	396	2,439	5,767	5,865	86.8	85.6	865	515	215	110

(Continued on page 36)



THE NEW YORK AIR BRAKE COMPANY

CONGRATULATES

TRAILER TRAIN

ON

FIVE YEARS

OF

PROGRESS!

1957

1958

1959

1960

1961

The New York Air Brake Company joins with others in the Railroad industry in recognition of the contribution which the "Piggy Back" concept has made toward increased revenue and a broader service potential for all railroads.

PRI MEMBER

THE NEW YORK AIR BRAKE COMPANY

230 PARK AVENUE • NEW YORK 17, N. Y.

OUR APPRECIATION

for your participation in making this progress possible in 5 years!

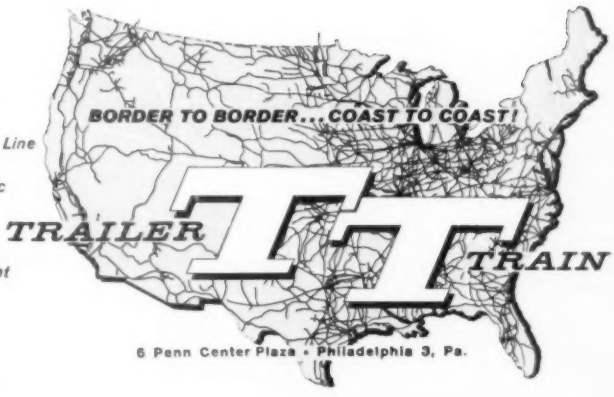
The record shows Trailer Train's joint operation has fostered the growth of piggyback to a far greater degree than would have been possible by any one railroad. Here are some of the significant steps that have contributed to this astounding progress:

1. **Trailer Train pioneered in the design of cars that have become standard railroad piggyback equipment throughout the nation.**
2. **Trailer Train's operation has stabilized low piggyback car rates for all its members.**
3. **Trailer Train has proven the greater efficiency and economy of a vast member-owned equipment pool.**
4. **Trailer Train's standardized equipment has simplified interchange.**
5. **Trailer Train has extended interline piggyback operations border to border, coast to coast.**

MEMBERS
TRAILER TRAIN PIGGYBACK SERVICE

Atlantic Coast Line
Baltimore & Ohio
Boston & Maine
Burlington
Central of Georgia
Chesapeake & Ohio
Chicago Great Western
Chicago & North Western
Cotton Belt
D. T. & I.
Frisco
Great Northern
Gulf, Mobile & Ohio
Illinois Central
Kansas City Southern
Louisville & Nashville
Milwaukee Road
Missouri-Kansas-Texas
Missouri Pacific
Nickel Plate
Norfolk & Western
Northern Pacific
Pennsylvania
Reading
R. F. & P.
Santa Fe
Seaboard Air Line
Southern
Southern Pacific
T. P. & W.
Texas & Pacific
Union Pacific
United States Freight
Wabash
Western Pacific

All for one—and one for all!



REVENUES AND EXPENSES OF RAILWAYS

(Dollar figures are stated in thousands: i.e., with last three digits omitted)

MONTH OF DECEMBER AND TWELVE MONTHS OF CALENDAR YEAR 1960

Name of Road		Average mileage operated during period	Operating Revenues: Freight	Pass.	Total (inc. misc.) 1960	1959	Operating Expenses: Maint. Way and Structures: Total 1960	1959	Deprec. and Retirements	Maint. Equipment: Total 1960	1959	Deprec. and Retirements	Traffic	Transportation	Total 1960	1959	Operating ratio 1960	1959	Net from railway operation	Railway tax accruals	Net Railway operating income 1960	1959
Duluth, Winnipeg & Pacific	Dec.	175	437	1	439	486	81	70	6	47	48	1	7	175	319	325	72.7	66.8	120	41	5	116
	12 mos.	178	5,475	9	5,523	5,883	1,289	1,317	65	661	686	14	88	2,165	4,327	4,420	78.3	75.1	1,196	514	—288	25
Elgin, Joliet & Eastern	Dec.	205	2,447	....	3,102	5,289	310	380	35	638	658	130	60	1,294	2,441	3,397	78.7	64.2	661	227	385	653
	12 mos.	205	36,861	....	48,498	43,222	4,059	3,402	350	10,197	7,844	1,513	562	18,924	37,805	33,572	78.0	75.9	10,693	5,810	2,554	2,390
Erie-Lackawanna*	Dec.	3,077	12,762	1,586	16,419	19,853	2,045	1,820	380	3,300	3,216	893	540	9,491	16,353	16,511	99.6	83.2	66	2,090	—2,888	918
	12 mos.	3,171	180,744	16,075	220,420	226,132	23,560	23,601	4,570	38,678	38,196	10,685	6,685	111,436	194,230	194,050	88.1	85.8	26,190	23,109	—9,943	—258
Florida East Coast	Dec.	572	1,984	381	2,854	2,922	374	432	47	544	653	118	71	1,091	2,290	2,509	80.2	85.9	564	211	91	—83
	12 mos.	572	22,278	4,655	30,278	32,804	3,912	4,889	540	5,940	6,656	1,398	941	12,065	25,014	27,702	82.6	84.4	5,264	2,459	212	—142
Georgia Railroad	Dec.	321	457	19	607	658	70	85	10	111	120	34	39	278	537	593	88.5	90.1	70	40	15	46
	12 mos.	321	6,343	197	7,611	7,952	976	1,115	104	1,334	1,472	401	478	3,492	6,748	7,253	88.7	91.2	863	492	431	406
Georgia & Florida	Dec.	321	254	....	258	263	66	58	3	33	37	10	22	85	237	226	91.6	86.1	22	17	—14	3
	12 mos.	321	3,199	....	3,267	3,391	1,237	844	42	507	477	121	270	1,068	3,327	2,927	101.8	86.3	—60	246	—524	—29
Grand Trunk Western	Dec.	946	3,242	202	3,888	4,538	591	685	80	795	853	157	112	2,162	3,918	4,274	100.8	94.2	—30	395	—730	697
	12 mos.	950	44,724	2,530	52,010	56,441	8,132	8,253	811	9,923	10,891	1,462	1,138	25,992	48,124	51,803	92.5	91.8	3,886	4,789	—6,097	6,925
Great Northern	Dec.	8,280	15,137	985	17,676	20,946	2,750	3,228	328	3,261	3,811	894	509	7,555	15,003	16,150	84.9	77.1	2,673	1,115	1,059	3,721
	12 mos.	8,292	218,533	9,355	246,025	254,560	39,454	40,218	3,878	45,378	47,549	10,663	6,647	90,569	194,052	197,109	78.9	77.4	51,973	28,702	18,435	24,210
Green Bay & Western	Dec.	219	323	....	354	364	20	36	5	48	84	8	24	174	290	288	86.7	79.0	44	33	—37	6
	12 mos.	219	4,229	....	4,381	4,664	675	731	59	563	582	103	327	1,496	3,352	3,434	76.5	73.6	1,028	504	89	254
Gulf, Mobile & Ohio	Dec.	2,747	5,279	286	6,227	6,987	707	687	81	1,202	1,368	292	261	2,310	4,883	5,018	78.4	71.8	1,344	548	265	531
	12 mos.	2,747	68,377	2,800	76,753	82,122	10,089	10,849	931	15,783	16,285	3,521	3,336	27,466	60,725	62,753	79.1	76.4	16,028	6,988	3,803	5,543
Illinois Central	Dec.	6,500	16,301	2,137	21,061	23,701	3,460	3,013	752	3,679	3,701	903	662	8,656	17,538	17,580	83.3	74.2	3,523	1,532	1,446	1,597
	12 mos.	6,500	209,462	22,579	260,225	271,652	37,919	38,333	5,561	48,919	49,287	10,308	7,809	103,466	211,149	212,989	81.1	78.4	49,075	26,237	13,722	18,789
Illinois Terminal	Dec.	335	567	....	642	830	73	108	2	139	126	25	41	307	617	683	96.0	82.3	25	57	—109	16
	12 mos.	335	8,333	....	9,363	10,603	915	1,267	35	1,677	2,121	318	546	3,870	7,669	8,862	81.9	83.6	1,694	521	18	34
Kansas City Southern	Dec.	891	3,069	85	3,530	3,669	87	139	68	559	508	113	93	1,179	2,039	2,113	57.8	57.6	1,491	555	648	729
	12 mos.	891	37,942	887	43,061	45,371	2,957	3,277	604	6,021	6,285	1,356	1,162	14,089	25,754	26,303	59.8	58.0	17,307	6,962	7,203	8,052
Kansas, Oklahoma & Gulf	Dec.	328	451	....	452	472	41	30	7	32	38	12	40	107	258	242	57.1	51.3	194	49	103	93
	12 mos.	327	5,196	....	5,246	5,447	468	664	90	437	426	148	406	1,297	2,976	2,992	56.7	54.9	2,270	889	847	888
Lake Superior & Ishpeming	Dec.	160	42	....	66	340	76	61	12	79	69	36	4	71	254	281	381.1	82.7	—188	Cr.83	—94	—43
	12 mos.	160	3,798	....	4,941	3,913	727	905	145	925	747	426	28	1,319	3,233	3,102	65.4	79.3	1,708	1,118	721	380
Lehigh & Hudson River	Dec.	98	243	....	246	243	18	28	3	33	34	8	16	115	199	210	80.7	86.2	47	14	—1	—4
	12 mos.	96	3,172	....	3,190	3,276	303	340	30	373	352	100	194	1,282	2,371	2,427	74.3	74.1	819	285	81	86
Lehigh & New England	Dec.	177	170	....	173	467	42	38	7	187	197	37	9	148	449	511	260.1	109.5	—276	Cr.205	1	—159
	12 mos.	177	3,523	....	3,565	6,034	523	708	92	2,226	2,057	452	137	1,909	5,409	6,101	151.7	101.1	—1,844	92	—960	799
Lehigh Valley	Dec.	1,127	3,322	133	3,631	4,749	456	394	99	671	746	210	126	2,073	3,553	3,993	97.9	84.1	77	341	—568	75
	12 mos.	1,127	47,734	1,318	51,310	54,426	6,745	6,212	1,167	8,923	9,112	2,242	1,609	26,896	46,894	48,498	91.4	89.1	4,416	5,239	—3,597	—1,488
Long Island	Dec.	344	708	4,885	5,780	5,976	669	687	117	1,108	1,236	169	39	3,124	5,125	5,098	88.7	85.3	655	381	68	274
	12 mos.	344	10,422	51,234	64,005	9,377	9,072	9,554	1,248	12,475	13,342	2,027	534	33,848	58,534	60,925	91.5	87.8	5,471	4,802	—1,722	1,113
Louisiana & Arkansas	Dec.	746	1,598	42	1,765	2,277	56	155	23	229	278	98	76	567	1,002	1,301	56.8	57.2	763	383	263	274
	12 mos.	746	21,882	484	23,764	25,657	2,090	2,231	276	3,470	3,632	1,173	951	7,920	15,359	15,929	64.6	62.1	8,406	4,233	2,824	3,385
Louisville & Nashville	Dec.	5,684	16,258	849	18,960	20,896	2,780	2,113	678	4,195	4,194	1,136	500	7,624	16,027	15,686	84.5	75.1	2,932	1,322	2,246	2,311
	12 mos.	5,684	201,285	8,441	226,957	229,713	29,032	29,825	4,218	48,310	46,227	13,966	6,120	90,814	185,870	182,950	81.9	79.6	41,087	28,398	17,745	19,046
Maine Central	Dec.	937	1,676	....	1,788	2,055	327	310	28	365	398	79	27	754	1,594	1,588	89.2	77.3	194	Cr.56	201	414
	12 mos.	936	22,206	205	23,904	24,568	4,224	4,433	346	4,487	4,493	984	364	8,774	19,214	19,989	80.4	81.4	4,690	1,814	1,991	1,989
Minneapolis & St. Louis	Dec.	See Chicago & North Western—merged with Chicago & North Western November 1, 1960.																				
	12 mos.																					
Minn., Northfield & Southern	Dec.	77	254	....	277	315	31	21	3	37	33	13	40	73	203	208	73.3	66.2	74	33	25	28
	12 mos.	77	3,505	....	3,738	4,312	330	287	32	460	479	154	427	1,010	2,659	2,710	71.1	62.9	1,080	665	346	565
Minn., St. Paul & S. Ste. Marie	Dec.	3,222	2,295	31	2,526	3,060	594	586	54	509	601	145	110	1,324	2,748	2,935	108.0	95.9	—222	65	—201	—1
	12 mos.	3,222	37,885	573	40,456	42,282	6,923	8,657	687	7,374	8,059	1,722	1,310	16,334	34,581	37,558	85.5	88.8	5,875	3,121	1,672	1,618
Missouri-Illinois	Dec.	172	390	....	395	496	55	40	4	89	94	40	14	122	293	290	74.3	58.6	101	109	45	119
	12 mos.	172	5,355	....	5,400	5,694	529	526	60	1,081	1,044	480	168	1,562	3,497	3,443	64.8	60.5	1,903	1,615	859	1,247
M-K-T Lines	Dec.	2,892	3,822	90	4,399	4,395	453	450	87	762	1,210	261	176	1,787	3,390	3,507	77.1	79.8	1,008	308	221	79
	12 mos.	2,912	51,745	934	57,475	58,385	6,384	6,221	1,041	11,002	12,381	3,147	2,104	21,519	43,472	43,907	75.6	75.2	14,004	4,124	3,721	3,782
Missouri Pacific	Dec.	9,362	18,847	1,180	22,782	25,495	2,416	3,214	721	4,440	4,513	1,174	751	9,296	17,966	19,333	78.9	75.8	4,816	1,524	1,984	3,629
	12 mos.	9,406	256,255	11,492	297,261	303,399	39,780	41,318	4,303	52,255	52,353	12,993	8,760	114,695	228,127	231,035	76.7	76.1	69,134	22,889	30,941	33,198
Monon	Dec.	541	1,389	40	1,518	1,749	202	216	20	273	312	76	99	606	1,305	1,483	85.9	84.8	214	120	53	97
	12 mos.	541	17,168	337	18,607	20,239	2,849	2,917	256	3,365	3,651	912	1,232	7,615	16,299	17,169	87.6	84.8	2,308	1,420	—155	1,102
Monongahela	Dec.	177	415	....	419	473	92	64	6	55	56	11	1	141	297	284	70.9	60.1	122	28	36	97
	12 mos.	177	6,328	....	6,360	5,241	917	813	137	634	657	131	11	1,584	3,342	3,649	52.5	69.6	3,018	448	1,895	726
New York Central	Dec.	10,368	36,451	7,063	52,541	62,551	5,835	5,658	1,047	8,085	11,312	2,348	1,113	26,837	44,551	50,341	84.8	80.5	7,990	2,647	3,582	5,589
	12 mos.	10,368	506,142	67,937	674,543	689,192	73,265	71,517	13,058	129,135	131,412	29,213	12,631	317,626	567,608	576,870	84.1	83.7	106,935	64,956	16,168	24,014
Pittsburgh & Lake Erie	Dec.	220	1,615	38	1,716	3,434	356	389	89	770	878	333	71	824	2,207	2,697	128.6	78.5	—491	Cr.26	776	1,451
	12 mos.	220	31,394	401	33,196	30,594	4,840	4,346	677	11,052	10,114	3,985	763	12,510	31,653	29,950	95.4	97.9	1,543	5,264	9,555	8,473
New York, Chic. & St. Louis	Dec.	2,170	10,010	130	10,563	13,925	1,260	1,273	128	1,805	1,937	381	371	3,944	7,856	8,964	74.4	64.4	2,707	780	1,418	2,221
	12 mos.	2,170	142,165	1,445	149,251	150,408	16,089	16,145	1,826	23,452	24,235	5,162	4,326	57,102	106,939	106,888	71.7	71.1	42,312	18,922	15,285	18,053
New York, New Haven & Hart	Dec.	1,742	4,951	4,294	10,984	12,475	1,500	1,634	490	1,632	2,101	513	253	5,818	10,108	11,349	92.0	91.0	876	943	—1,397	—1,069
	12 mos.	1,752	71,006	44,441	134,044	144,335	17,096	18,064	3,329	22,560	21,698	5,755	2,877	67,935	121,064	124,969	90.3	86.6	12,981	12,174	—16,625	—9,215
New York Connecting	Dec.	21	220	....	245	354	46	66	25	15	13	....	....	78	143	167	58.3	47.0	102	108	—42	66
	12 mos.	21	2,843	....	3,198	3,898	814	871	304	191	159	....	....	988	2,039	2,105	63.8	54.0	1,158	1,155	—341	436
New York, Sus. & Western	Dec.	97	271	4	294	368	48	29	15	36	65	8	9	146	68	333	90.9	90.3	27	27	—48	—49
	12 mos.	99	3,667	132	4,012	4,068	509	465	89	585	644	120	108	1,812	3,393	3,665	84.6	90.1	619	391	—293	—486

* Includes figures for all periods for Delaware, Lackawanna & Western, with which Erie was merged effective Oct. 17, 1960.

(Continued on page 43)

whatever your costs of
conduit operation and maintenance

STEAM-LIFE

CONDUITS WITH TEFLON*-FACED GASKETS

WILL CUT YOUR COSTS UP TO 50%

HOW ARE COSTS CUT UP TO 50%? HERE'S HOW:

1. Teflon*-faced Gaskets last 2½ to 3 times as long as any previous gasket.
2. Mechanical wear on most Steam-Life parts is minimized beyond all expectations.
3. When gaskets require renewal, they are replaced on the car—in service—in less than 5 minutes time.
4. Conduits remain on the car month-after-month as the years go by, until actual wear requires the simple replacement of a stainless steel part.
5. Original 2-year expected service life was an estimate. Actual performance is showing that parts greatly outlive this estimate.
6. Longer life of conduits . . . longer life of parts . . . longer life of gaskets—ask your stores and purchasing departments what this means in stocking of so many less parts . . . in shipping of so many less parts . . . and in application of so many less parts.
7. Steam-Lifing and Teflon*-Faced Gaskets match the tremendously increasing effectiveness of railroad labor.

Send for Steam-Life Bulletin No. 452-R

*T.M. of Du Pont

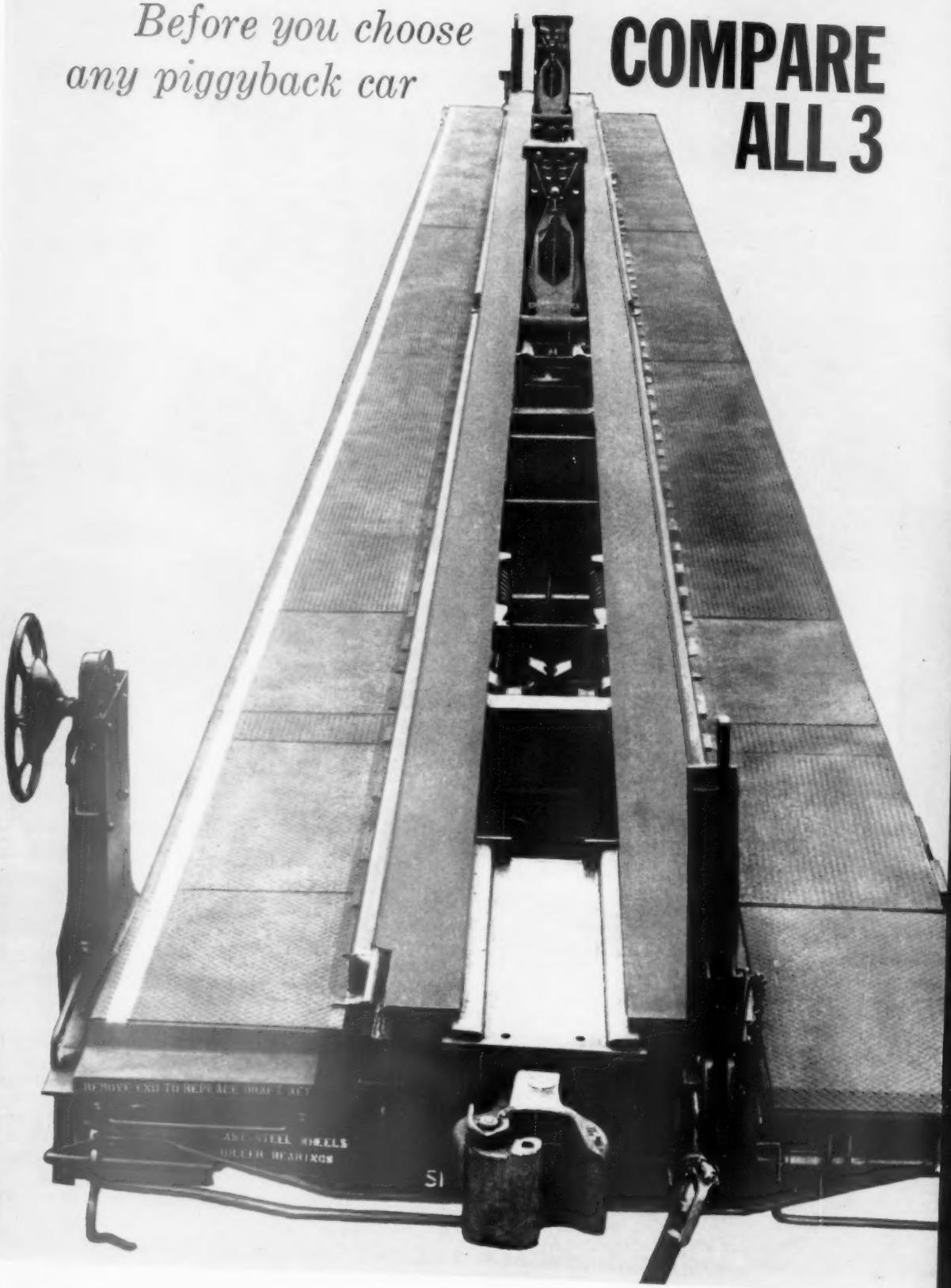
RAI MEMBER

VAPOR HEATING CORPORATION

80 East Jackson Boulevard • Chicago 4, Illinois

Before you choose any piggyback car

COMPARE ALL 3



Here are the facts about all three leading makes of piggyback cars (in capsule form)

	G-85	CAR A	CAR B
1 Height above rails	36½"	41½"	41½"
2 Wheels	AAR Standard 33"	AAR Standard 33"	AAR Standard 33"
3 Tie-down time	30 Seconds	3 min. (minimum claimed)	3 min. (minimum claimed)
4 Unloading time	20 Seconds	3 min. (minimum claimed)	3 min. (minimum claimed)
5 Automatic alignment guides	Yes	No	No
6 Tie-down principle	Driver backs trailer into position and releases hook. Hook engages hitch and pulls it into position automatically. Tractor nudges trailer into lock position. Nothing else needed.	Driver backs trailer into position. Another man climbs on car, adjusts trailer landing gear and bleeds brakes in rear of trailer. Then he returns to front of trailer, engages wrench and elevates hitch into position. Man must then disengage wrench, reposition it and re-engage it to operate kingpin lock.	
7 Operators	1 (tractor driver only from inside cab)	Minimum of 2 (man in tractor plus wrench operator)	Minimum of 2 (man in tractor plus wrench operator)
8 Tools needed for tie-down	Hook Only	Pneumatic or electric wrench plus hose or cable and power supply	Pneumatic or electric wrench plus hose or cable and power supply
9 Tie-down equipment cost	$28 – $135	$375-$600 each plus air lines or cable and power supply attachments	$375-$600 each plus air lines or cable and power supply attachments
10 Yard crews needed around clock	No	Yes	Yes
11 Hitch shock absorber usable for racks and containers	Yes	No	No
12 Compatible with every piggyback now in use	Yes	No	No
13 Accepts auto racks without modification	Yes	No – Can only be used by modifying car and adding complete shock absorption.	No – Can only be used by modifying car and adding complete shock absorption.
14 Containers			
A. Shock absorbers built into car	Yes	No	No
B. Loaded by crane	Yes	Yes	Yes
C. Load without cranes (roll-on, roll-off)	Yes	No	No
D. Fork lift loading with no interference	Yes	No	No

For further information about the G-85, call your nearby General American office.

Piggy-Back GENERAL AMERICAN TRADE MARK

Piggy-Back Division

GENERAL AMERICAN TRANSPORTATION CORPORATION

135 South LaSalle Street • Chicago 3, Illinois

Offices in principal cities

"And, at the recommendation of our two most traveled passengers, I hereby move that Chipman Weed Killers be used on our railroad."

A broad line of Chipman weed, grass and brush killers is available. Each is formulated to solve specific vegetation control problems. Most widely used are these trade-name products:

Atlacide • Atlas "A" • Chlorax • Chlorea • Methoxone-Chlorax
TCA-Chlorax • Methoxone-Chlorea • Chipman Brush Killer

These chemicals, as well as our special application service and equipment, are backed by almost a half century of extensive railroad weed control experience.

Let us solve *your* weed problem with the *right* chemicals and application service. Your inquiry will receive prompt attention.

CHIPMAN
Chemical Company, Inc.

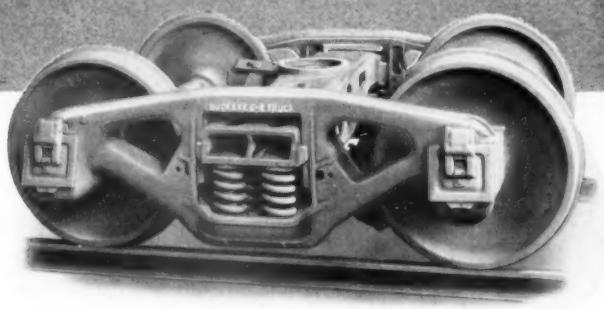
BOUND BOOK, NEW JERSEY

World Leader in Chemical Weed Control Since 1912

Get Longer Service Life!

with

BUCKEYE C-R® TRUCKS
(CUSHION-RIDE)®



Specified for

TT

TRAILER TRAIN

The Buckeye Steel Castings Co.

PRI MEMBER

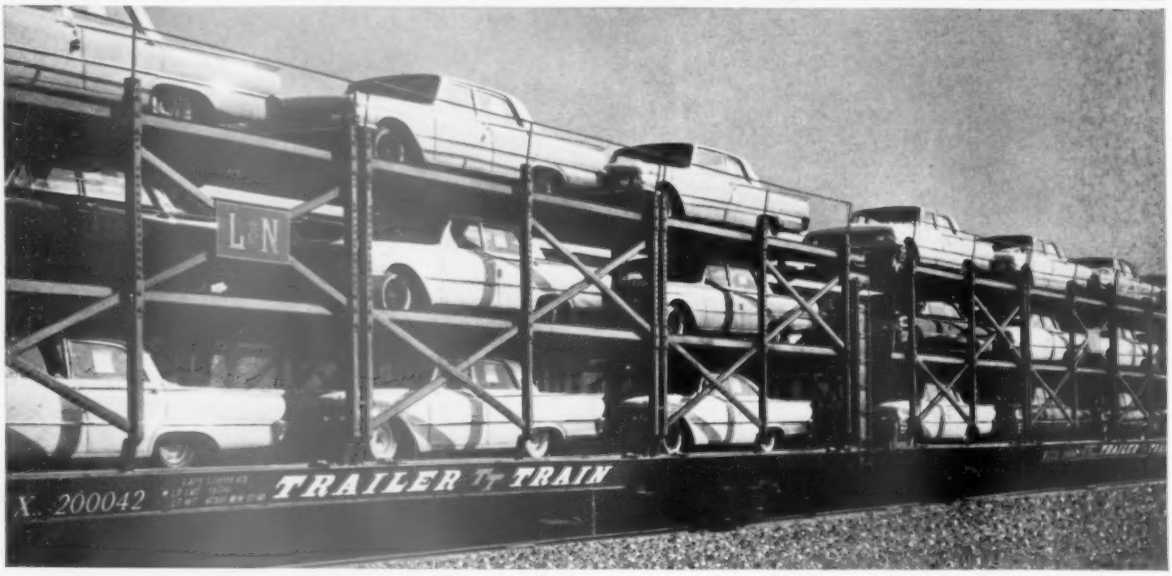
COLUMBUS, O.
NEW YORK, N.Y.
CHICAGO, ILL.
ST. PAUL, MINN.
SAN FRANCISCO, CALIF.

FOR COMPLETE INFORMATION . . . CALL OR WRITE.
Refer Ad 11883

SAB

CONGRATULATES *TRAILER TRAIN* COMPANY

ON ITS 5th ANNIVERSARY



Most of the 6,200 Trailer Train cars are equipped with SAB automatic double-acting Brake Slack Regulators

Five years are a short time as anniversaries go, but TRAILER TRAIN has made transportation history during this period. SAB Fully Automatic Brake Slack Regulators were first selected for installation on T.T.X. cars. Since then, most of these high mileage cars have been equipped with SAB Automatic, Double-Acting, Mechanical Screw-Type Brake Slack Regulators. Their proven performance provides dependable braking service with a minimum of terminal delays for these fast schedule cars. The growing use of SAB Brake Slack Regulators on cars of leading American railroads is demonstrating their economical and dependable performance on freight cars of all types.

AAR APPROVED

SAB

PRI MEMBER

AMERICAN SAB COMPANY, INC. 332 South Michigan Avenue, Chicago 4, Illinois

REVENUES AND EXPENSES OF RAILWAYS

(Dollar figures are stated in thousands: i.e., with last three digits omitted)

MONTH OF DECEMBER AND TWELVE MONTHS OF CALENDAR YEAR 1960

Name of Road		Average mileage operated during period	Operating Revenues: Freight	Pass.	Total (inc. misc.) 1960	Total (inc. misc.) 1959	Operating Expenses: Maint. Way and Structures: Total 1960	Maint. Way and Structures: Deprec and Retirements	Maint. Way and Structures: Total 1959	Maint. Equipment: Total 1960	Maint. Equipment: Deprec. and Retirements	Traffic	Transportation	Total 1960	Total 1959	Operating ratio: 1960	Operating ratio: 1959	Net from railway operation	Railway tax accruals	Net Railway operating income: 1960	Net Railway operating income: 1959
Norfolk & Western	Dec.	2,743	16,786	266	18,167	21,816	1,571	2,894	340	2,852	3,258	1,487	418	5,170	10,870	13,463	59.8	61.7	7,297	2,372	5,661	6,590
	12 mos.	2,743	228,144	2,528	241,279	246,953	26,078	27,734	4,904	38,761	41,585	17,530	4,891	64,379	144,113	159,990	59.7	61.1	97,166	46,558	66,497	66,164
Norfolk Southern	Dec.	592	685		697	811	289	211	59	216	132	49	49	337	965	723	138.4	89.1	—268	367	30	88
	12 mos.	592	9,129		9,291	9,875	2,134	2,288	216	1,680	1,595	481	600	3,308	8,534	8,455	91.9	85.6	757	237	176	434
Northern Pacific	Dec.	6,800	11,134	685	13,038	14,324	1,517	1,893	329	2,098	2,359	844	414	6,254	11,173	11,446	85.7	79.9	1,865	1,245	747	812
	12 mos.	6,816	155,557	6,243	174,915	183,609	27,208	27,553	4,155	32,544	31,701	9,839	5,098	71,911	147,871	146,426	84.5	79.7	27,044	20,212	10,116	14,569
Northwestern Pacific	Dec.	328	703		709	976	212	250	58	22	98	3	7	228	495	685	69.7	70.2	215	26	—10	28
	12 mos.	328	11,327	5	11,409	13,899	2,463	2,599	359	854	992	31	88	3,525	7,243	8,022	63.5	57.7	4,166	1,198	272	1,272
Pacific Electric	Dec.	338	936		1,072	1,120	208	213	23	16	54	14	23	502	851	663	79.4	59.2	220	144	—112	135
	12 mos.	348	11,874		13,593	13,836	2,156	2,258	281	475	652	27	262	6,356	10,460	10,894	76.9	78.7	3,133	1,713	—648	—374
Pennsylvania	Dec.	9,872	43,239	9,855	62,838	76,831	7,447	8,084	1,584	12,409	13,609	3,047	1,175	32,299	57,230	61,613	91.1	80.2	5,608	5,627	—5,572	3,144
	12 mos.	9,882	637,640	99,849	843,705	887,684	86,072	86,969	17,790	160,478	175,620	35,802	14,227	388,749	698,677	727,473	82.8	82.0	145,028	70,651	4,227	29,835
Penn.-Reading S.S. Lines	Dec.	339	378	52	443	682	147	185	23	91	152	26	6	449	779	870	175.8	127.6	—336	76	—575	—432
	12 mos.	338	6,179	907	7,343	8,131	1,998	2,522	304	1,412	1,592	309	88	5,676	9,963	10,693	135.7	131.5	—2,620	885	—5,537	—5,372
Piedmont & Northern	Dec.	126	453		463	476	49	42	5	42	38	10	33	101	265	269	57.4	56.4	197	86	56	43
	12 mos.	126	5,558		5,690	5,731	587	528	62	448	426	118	393	1,134	3,041	2,899	53.4	50.6	2,649	1,273	729	775
Pittsburgh & West Virginia	Dec.	132	453		455	850	203	111	25	138	166	36	55	160	621	646	136.4	77.8	—166	71	—241	87
	12 mos.	132	7,613		7,677	7,977	1,857	1,793	310	1,752	1,882	528	827	2,497	7,578	7,820	98.7	98.0	100	3	19	289
Reading	Dec.	1,296	7,041	666	8,366	9,750	1,188	1,089	207	1,452	1,940	276	204	3,931	7,188	8,151	85.9	83.6	1,178	666	226	709
	12 mos.	1,302	92,497	6,043	106,190	107,001	13,225	13,374	2,347	20,250	20,832	5,555	2,344	47,031	84,497	90,201	83.3	84.3	17,693	7,455	6,420	7,682
Richmond, Fred. & Potomac	Dec.	118	1,089	440	2,027	2,160	204	160	25	300	325	67	23	779	1,473	1,391	72.3	64.4	554	303	100	305
	12 mos.	118	14,704	4,860	23,734	23,860	2,092	1,819	356	3,563	3,537	781	337	8,232	15,956	15,901	67.2	66.6	7,778	4,375	2,185	2,397
Rutland	Dec.	391	294		313	387	42	58	8	54	62	18	23	137	299	353	95.5	91.2	14	17	—6	4
	12 mos.	391	3,350		3,614	4,612	759	900	105	652	715	218	303	1,603	3,642	4,207	100.8	91.2	—28	334	—370	—4
St. Louis-San Francisco	Dec.	4,546	8,552	191	9,569	10,485	1,085	1,110	221	1,370	1,858	616	359	3,869	7,287	7,828	75.4	74.7	2,373	1,913	152	952
	12 mos.	4,549	107,089	2,225	118,995	121,266	18,001	18,091	2,195	19,144	20,653	7,229	4,278	47,180	93,809	97,446	80.5	80.4	23,196	9,749	10,554	11,629
St. Louis-S. F. & Texas	Dec.	143	389	1	394	402	93	33	2	21	25	1	25	149	302	234	76.6	58.3	92	Cr.479	502	307
	12 mos.	143	4,926	2	5,119	5,123	435	331	48	296	324	14	269	1,788	2,945	2,883	57.5	56.3	2,174	159	1,198	891
St. Louis Southwestern Lines	Dec.	1,554	4,919		4,979	5,319	741	667	138	778	740	231	201	1,849	3,746	3,675	75.2	69.1	1,233	450	1,471	1,624
	12 mos.	1,554	63,916	1	64,731	65,369	6,982	7,054	1,060	8,451	8,330	2,637	2,213	21,561	41,429	41,752	64.0	63.9	23,303	10,495	10,321	10,062
Savannah & Atlanta	Dec.	144	378		439	441	73	54	4	84	59	19	16	111	298	261	81.1	76.5	40	Cr.10	39	39
	12 mos.	144	4,144		4,333	4,087	740	616	24	825	764	232	198	1,403	3,326	3,121	76.8	76.4	1,007	407	413	467
Seaboard Air Line	Dec.	4,135	10,460	1,175	13,319	14,710	1,837	1,761	258	2,493	2,276	723	485	5,311	10,850	10,574	81.5	71.9	2,469	864	1,210	1,780
	12 mos.	4,144	130,277	13,919	157,505	161,441	20,412	20,397	2,806	30,511	29,404	8,914	5,692	52,115	124,034	122,225	78.7	75.7	33,472	14,560	15,463	19,078
Southern Railway	Dec.	6,267	19,179	866	22,193	25,065	1,986	1,362	558	3,415	3,705	1,045	495	7,495	14,701	14,483	66.2	57.8	7,491	2,866	3,541	4,107
	12 mos.	6,267	229,928	10,521	261,060	271,881	30,958	32,255	4,627	45,008	44,965	12,242	6,176	85,693	182,631	183,915	70.0	67.6	78,429	33,225	36,108	39,692
Alabama Great Southern	Dec.	327	1,002	42	1,235	1,535	394	259	59	265	409	84	41	509	1,336	1,358	108.2	88.4	—101	Cr.42	—117	84
	12 mos.	328	13,185	500	15,496	16,619	3,074	2,822	467	3,561	3,851	988	504	6,019	14,429	14,353	93.1	86.4	1,057	937	—497	727
Cinn., N. O. & Texas Pac	Dec.	337	2,489	83	2,895	3,281	874	193	677	689	931	271	81	875	2,761	2,385	95.4	72.7	134	Cr.398	655	665
	12 mos.	337	32,668	1,000	36,503	39,518	7,017	6,603	1,590	8,651	8,641	3,019	1,011	10,642	29,648	29,211	81.2	73.9	6,855	2,808	5,868	7,185
Georgia Southern & Florida	Dec.	397	615	31	781	530	37	14	35	69	69	11	22	267	465	411	59.6	77.5	316	Cr.155	237	54
	12 mos.	397	7,465	397	8,915	9,774	1,668	1,286	160	852	1,016	125	269	3,209	6,693	6,544	75.1	66.9	2,223	313	29	544
New Orleans & Northeastern	Dec.	203	564	33	692	934	69	24	47	211	191	102	27	249	648	598	93.6	64.0	44	Cr.491	551	248
	12 mos.	203	8,595	378	9,876	11,322	2,295	2,230	363	2,558	2,376	1,136	330	3,047	9,150	8,988	92.6	79.4	726	443	773	1,243
Southern Pacific	Dec.	7,953	34,379	2,438	40,368	44,605	5,956	7,264	949	9,960	10,091	2,627	874	17,112	36,385	38,386	90.1	86.1	3,983	3,103	922	2,179
	12 mos.	7,997	478,804	26,045	535,774	550,091	63,146	66,360	7,775	120,583	122,157	30,988	9,322	206,519	425,643	433,065	79.4	78.7	110,131	58,808	45,307	46,118
Texas & New Orleans	Dec.	4,099	8,995	332	10,088	11,568	2,095	2,225	359	1,997	2,101	206	263	4,044	9,021	9,683	89.4	83.7	1,056	26	217	291
	12 mos.	4,092	119,719	3,548	130,858	140,235	21,304	23,957	2,164	20,918	20,780	2,428	3,051	49,053	101,570	106,881	77.6	76.2	29,288	10,329	4,068	7,043
Spokane International	Dec.	150	212		221	254	38	54	4	21	36	10	4	67	140	177	63.6	69.7	80	19	43	8
	12 mos.	150	3,230		3,339	3,501	617	610	48	307	327	118	50	855	1,948	2,017	58.4	57.6	1,391	644	419	484
Spokane, Portland & Seattle	Dec.	936	2,404	116	2,710	3,144	532	535	60	450	467	129	43	1,130	2,288	2,473	84.4	78.7	422	250	51	255
	12 mos.	936	29,469	1,023	32,705	34,647	5,231	5,464	718	5,631	5,617	1,547	431	12,689	25,438	25,756	77.8	74.3	7,267	3,153	2,774	4,872
Tennessee Central	Dec.	284	303		331	384	43	50	6	57	52	21	17	126	267	269	80.5	70.1	64	22	—1	34
	12 mos.	284	3,778	3	4,141	4,206	560	535	64	662	616	256	183	1,483	3,168	3,102	76.5	73.8	973	303	147	311
Texas & Pacific	Dec.	1,825	4,653	402	6,001	6,626	597	625	143	982	1,019	293	230	2,545	4,731	4,888	78.8	73.8	1,270	Cr.137	1,018	658
	12 mos.	1,825	60,021	3,899	71,807	74,509	7,524	9,727	1,233	12,292	12,710	3,403	2,784	30,092	57,220	60,177	79.7	80.8	14,587	5,141	4,579	4,198
Texas Mexican	Dec.	161	197	....	222	262	72	48	7	32	33	12	14	77	218	209	98.3	79.8	4	4	—18	1
	12 mos.	161	2,952	....	3,297	3,588	652	712	76	415	398	138	153	1,002	2,507	2,625	76.0	73.2	790	363	94	133
Toledo, Peoria & Western	Dec.	239	514	....	534	606	37	51	7	64	64	13	59	174	373	394	69.6	65.1	161	66	24	46
	12 mos.	239	6,964	1	7,249	7,770	811	897	83	615	634	161	612	2,073	4,609	4,734	63.6	60.9	2,641	1,142	669	884
Union Pacific	Dec.	9,727	32,968	2,513	40,060	44,093	3,353	4,361	572	7,125	7,306	2,537	1,068	15,078	29,852	31,029	74.5	70.4	10,208	6,246	2,590	2,605
	12 mos.	9,741	428,271	27,519	494,184	515,767	52,602	60,397	7,467	89,299	94,529	29,517	13,913	175,940	359,741	378,742	72.8	73.4	134,443	79,343	32,835	36,957
Wabash	Dec.	2,423	7,331	382	8,699	9,415	800	1,067	130	1,266	1,286	492	335	4,251	7,123	7,704	81.9	81.8	1,576	610	127	184
	12 mos.	2,414	96,356	4,645	112,628	119,625	10,951	14 103	1,441	15,756	16,892	5,634	3,946	52,467	88,629	96,258	78.7	80.5	23,999	8,121	6,006	5,786
Ann Arbor	Dec.	294	637	....	643	684	48	60	13	110	151	44	20	330	531	607	82.6	88.8	112	50	46	19
	12 mos.	294	8,187	1	8,335	8,749	774	1,029	76	1,814	1,926	530	316	3,979	7,156	7,987	85.9	91.3	1,179	643	309	—169
Western Maryland	Dec.	841	2,962	....	3,089	4,624	534	641	65	793	853	305	134	1,198	2,866	3,318	92.8	71.8	223	61	403	1,224
	12 mos.	842	44,352	....	46,110	44,891	7,104	6,664	742	9,911	9,622	3,675	1,515	15,701	36,796	35,542	79.8	79.2	9,314	5,129	7,603	8,458
Western Pacific	Dec.	1,188	3,697	128	3,924	3,831	431	526	101	672	725	232	243	1,558	3,233	3,562	82.4	93.0	690	Cr.1	604	189
	12 mos.	1,188	48,580	2,332	52,237	52,904	7,111	6,655	1,006	8,230	8,339	2,645	2,983	19,312	41,610	41,218	79.7	77.9	10,627	4,201	5,431	5,858
Wisconsin Central	Dec.	1,031	1,936	27	2,253	2,706	247	294	62	320	395	110	109	1,248	2,090	2,273	92.8	84.0	162	185	—134	52
	12 mos.	1,031	29,588	292	32,362	32,387	3,840	4,379	557	5,087	5,162	1,316	1,273	14,479	26,662	26,828	82.4	82.8	5,700	2,396	699	859

a RAILWAY AGE Service Page

New

FULLY TRANSISTORIZED POCKET 2-WAY RADIO

...versatile communications "tool" cuts costs...speeds railroad service

Motorola engineering has shattered all previous concepts of pocket 2-way radio design. The first completely transistorized transmitter and companion receiver give you new communications flexibility . . . new convenience and dependability with operating costs counted in pennies. The transmitter can be held in one hand . . . just press the button and talk. The pocket receiver has been proved on the job . . . provides clear, crisp message reception even in high noise areas. Now, the man-on-the-ground can maintain full radio contact with: 1. other men-on-the-ground, 2. yardmasters or foreman, 3. engine crews. Car inspection . . . car checking . . . trimmer engine control are just a few uses for the versatile pocket radio—call on Motorola for full facts.

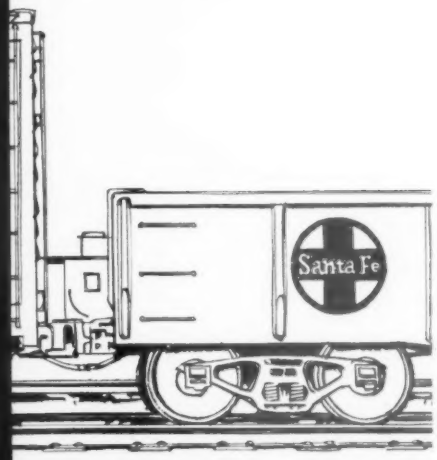
MOTOROLA
2-WAY POCKET RADIO

NOW, FOR THE FIRST TIME, YOU CAN HAVE A POCKET RADIO SYSTEM TOTALLY FREE FROM TUBE FAILURE AND HEAVY CURRENT REQUIREMENTS

The first completely transistorized Pocket Transmitter . . . new small size . . . greater dependability. Delivers a full ½ watt output for extensive communications coverage—transmission is consistent over a long battery life. Measures 5½"x2½"x1⅛", weighs 14.5 oz. Uses standard mercury cells or rechargeable nickel-cadmium batteries.

The completely transistorized Pocket Receiver is proved . . . compact . . . powerful . . . another Motorola first! Weighs 13 oz., measures 5⅛" x 2½" x 1⅜", provides ½ watt audio output. Where needed, lapel speaker and auxiliary antenna plug-in without modification. Uses standard mercury cells or rechargeable nickel-cadmium batteries.

Why not learn how Motorola 2-way Pocket Radio can do-the-job for you...



MOTOROLA COMMUNICATIONS & ELECTRONICS, INC.
A Subsidiary of Motorola, Inc.
4501 Augusta Blvd., Chicago 51, Illinois

☐ Mail me full fact kit on 2-way Pocket Radio No. RA-13.
☐ Have railroad representative telephone for appointment.

Name _____ Title _____
Railroad _____
Address _____ Phone _____
City _____ Zone ____ State _____

Railroading After Hours

with Jim Lyne

WHO SHOULD PAY RELIEF COST?—Few people nowadays would quarrel with the practice of providing some minimum of income, for a limited time, for persons thrown out of work through no fault of their own. But a question does arise, I think, as to who should put up the money for payments to the unemployed. Current practice (on railroads, for instance) is to levy the cost wholly on the employer. But it's very seldom the railroads that cause the unemployment of railroad people — usually the origin of lost jobs on railroads is the diversion of traffic to other forms of transportation, aided by governmental subsidies.

Where jobs are destroyed by government action — and the cost of providing relief is incurred — I keep wondering why this cost isn't a legitimate government expense, instead of being a charge on the railroads.

LOWER TAXES FOR MOTORISTS?—I've received some direct-mail advertising from a state auto club, affiliated with the American Automobile Association — trying to sell me a membership. They offer "tour and travel service," repair arrangements, and so on — all attractive benefits until I come down to "civic and legislative activities." Here they come right out and admit:

"Your interests represented in Washington and at state capital, fighting against increases and for reduction of automotive taxes."

The way I figure it — practically everybody is a motorist today. If we motorists don't pay in full for our highways by automotive taxes, we will pay the difference in income taxes or sales taxes or in some other indirect way — and it's a lot sounder economics to collect the check where the expense occurs, i.e., on the use of the highways.

The AAA, as I recall, fights "diversion" of automotive taxes to non-highway expenditures — which, if successful, simply means that motorists have to meet general governmental expenses entirely by sales taxes and by levies on their homes or their incomes. And what does AAA do to see that heavy trucks pay a fairer share of highway costs? What does it do toward telling its members what cars are good buys and which ones aren't?

GOOD READING—Bob Banks, transportation consultant in Washington, D. C., has come up with a rejoinder to the Army Engineers' document "Future Needs for Navigation," issued as "Committee Print No. 11" by the Senate Committee on Water Resources. The study by Mr. Banks and his associates was prepared for the Upper Ohio Valley Association and has been published by the Government Printing office as a supplement to "Committee Print No. 11."

The Army Engineers had recommended a modest additional expenditure of $7.9 billion of your money and mine, in order to reduce the freight bills of the rich corporations which are the principal users of the inland waterways. Mr. Banks objects, with a devastating appraisal of the quality of the Army Engineers' economic reasoning. It should (but probably won't) arouse feelings of guilt in the opulent coterie of shippers, contractors, carriers and bureaucrats who are waxing fat on the proceeds of the taxpayers' largess to the barge business.

The problems of the industrial traffic manager — as enlarged to encompass all the functions of distribution (and not merely point-to-point movement) — are examined in a book entitled "Physical Distribution Management" (published by Macmillan). The authors are Professors E. W. Smykay and F. H. Mossman of Michigan State, and D. J. Bowersox of REA Express. Looks like a book every industrial and railroad traffic manager (and their principal assistants) could profitably absorb.

Just for good measure, too, along comes G. R. Stevens' long-awaited first volume of his comprehensive history of the Canadian National (published by Clarke, Irwin & Co., Toronto). And then there's Professor J. C. Bonbright's "Principles of Public Utility Rates" (Columbia University Press). Utility rate-making problems have many similarities with those of the railroads' — and the utilities have made a lot more progress than railroads have, so far, in finding successful answers to them.

BALANCED BRAKING

Racor mechanical car retarders clasp each wheel individually for consistent braking regardless of wheel mounting variations

Consistent braking, dependable braking—that's the kind of braking you get every time with Racor mechanical car retarders. You get the same braking car after car because of Racor's exclusive balanced braking principle. Here's what this means:

First, each wheel is clasped on both sides. There's no force tending to press it off the axle, no force to crowd the flange against the running rail. The rugged Racor unit "floats" from side to side, gripping the wheel with the same pressure on the front and back.

Second, each wheel of a pair is clasped independently of its mate. Variations in wheel back-to-back distances have no effect on the Racor retarder's operation.

Third, less flange pressure. Improper adjustment of the Racor retarder cannot cause unusually heavy pressures against flange of wheel.

In yard after yard, Racor mechanical car retarders are eliminating skates, speeding operations, and returning as much as 40% on their investment. Ask your Brake Shoe representative to show you how they can help improve your yard operations. American Brake Shoe Company, Railroad Products Division, 530 Fifth Ave., New York 36, N.Y.

In Canada: Dominion Brake Shoe Company, Ltd.

AMERICAN Brake Shoe COMPANY

Quality products cut your ton-mile costs

A-1901

Sixteen tracks of this yard employ Racor mechanical car retarders. Note that locations of retarders are staggered, so that the full length of each track can be used.

The Racor retarder clasps each wheel with the same pressure from both sides. This balanced braking gives consistent operation regardless of variations in wheel back-to-back distance. There is no excessive flange pressure or tendency to force the wheels apart on the axle.

FUEL FLOW in Sweeney system is automatically controlled by sensing line inserted in quick-coupling.

How D&RGW Cuts Fueling Time

The Denver & Rio Grande Western expects to cut costs substantially with a new diesel locomotive fueling system. The system will eliminate fuel tank overflow and decrease the time required to service diesel units.

The automatic shut-off fueling system, developed on the D&RGW, has been made standard on the railroad. It is being installed on all the road's locomotives as they pass through the Burnham, Colo., shop.

The cost-cutting fueling system is marketed by the B. K. Sweeney Manufacturing Company, Denver. A. N. Bisgard, the road's assistant chief mechanical officer, was one of the designers.

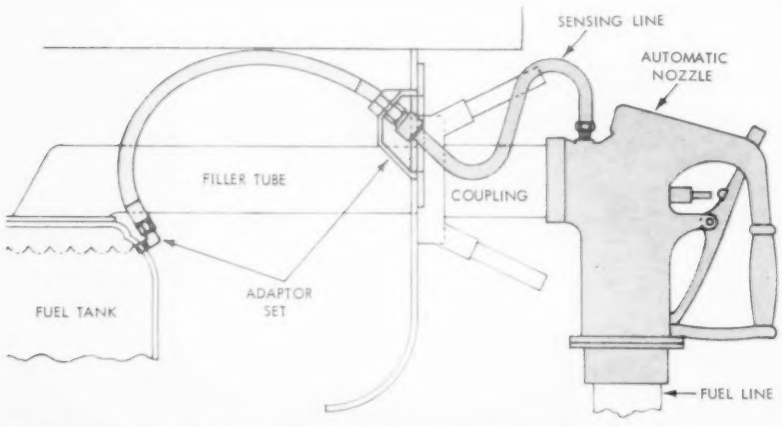
The Sweeney system is designed for all diesel locomotive types. It requires no alteration of the locomotive filler tube and fueling station connectors. Standard Protecto-Seal couplings are retained. Fuel tank adaptor sets applied to the locomotive transmit the indication of a full tank to the automatic shut-off nozzle. The indication is transmitted from a 90-degree elbow placed near the top of the fuel tank through a flexible hose to a quick-coupling housing mounted on the locomotive skirt. A separate mounting plate is provided for locomotives without skirts. Average installation time of a fuel adaptor set on one side of a locomotive is approximately two hours.

Before operating the system, the automatic action of the nozzle can be pretested. After the nozzle is connected to the filler tube, the trigger is pulled to start the fuel flow. Before the sensory line is connected to the quick-coupling, the operator places his thumb over the sensory line orifice. The nozzle will shut off when the orifice is closed. The sensory line is then connected to the housing, and the trigger pulled to start the fuel flow. As long as air passes through the sensing line between the fuel tank and the nozzle, the fuel will continue to flow.

When the fuel level in the tank reaches the orifice of the 90-degree elbow, air in the sensing line is cut off, tripping the valve in the nozzle and stopping the fuel flow. The trigger position on the nozzle signals the operator that fueling is completed.

The automatic shut-off nozzles are available in 1-½-in. and 2-½-in. sizes. Maximum flow rate is 300 gallons per minute for the 2-½-in. size, 75 gallons per minute for the 1-½-in. size. Minimum rates are 30 gpm and 25 gpm, respectively. The 2-½-in. nozzle is adjustable to "soft-close" to eliminate line shock where pump pressures are high and fuel supply lines are long. This feature can also be used as an "override" to add fuel above the 90-degree elbow orifice in order to fill the tank completely.

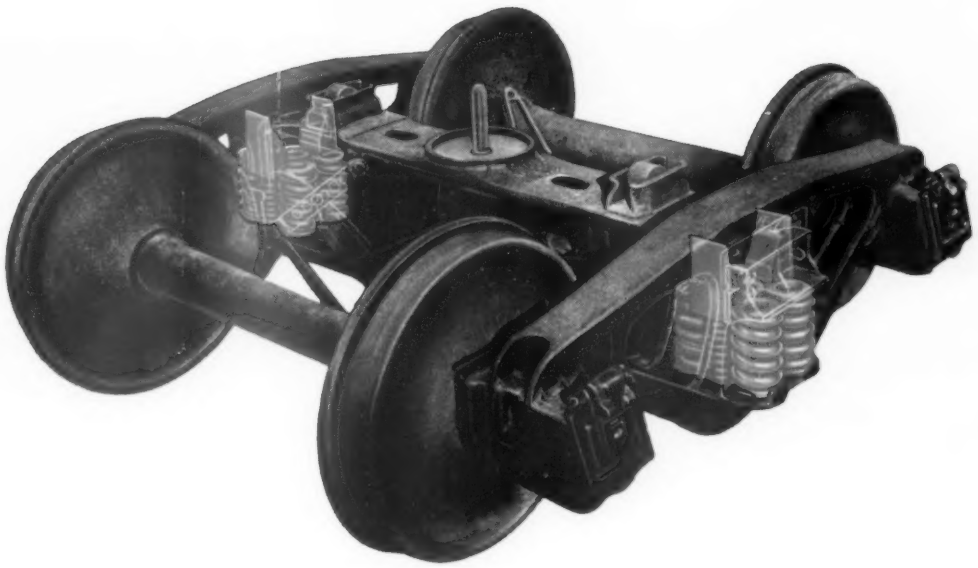
Used conventionally, the nozzle is shut off manually by tripping a lever on top of the handle. The nozzle can also be used to fuel locomotives not equipped with the fuel tank adaptor sets. A conventional nozzle can be used to refill Sweeney-equipped locomotives manually.



TYPICAL INSTALLATION of Sweeney automatic fueling system on a diesel locomotive is shown in this schematic drawing.

Over a Million BARBER Trucks are in Daily Service—

Thousands in Piggybacking



Passenger train speeds
and mileage are taken in stride
by this simple, rugged truck.

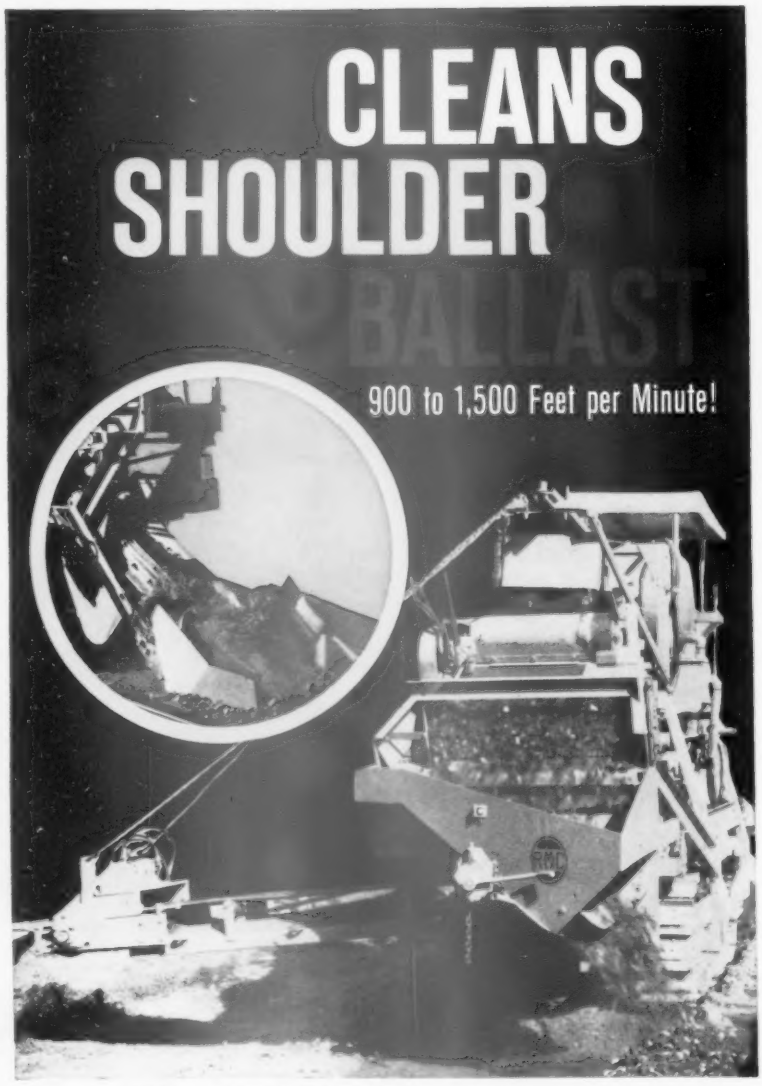
Standard
CAR TRUCK COMPANY

BARBER

Manufacturer of
BARBER Stabilized Trucks and
center sill CUSHION TUBES

9746

332 South Michigan Avenue, Chicago 4, Illinois • Canada: Consolidated Equipment Co., Ltd., Montreal 2



McWilliams Super-Mole

NOW WITH FAR GREATER HORSEPOWER, the off-track Super Mole is faster, more efficient—a greater source of savings for the railroad. Requiring only one man and completely hydraulic in operation, it picks up fouled ballast from the shoulder . . . separates stone and dirt . . . deposits clean ballast from adjustable chutes at any desired point outside the rail . . . and carries dirt clear (9′ conveyor shown is optional). • *May we demonstrate how Super Moles will reduce costs for your railroad?*

Railway Maintenance Corporation

BOX 1888 • PITTSBURGH 30, PA.

Current Publications

NEW BOOKS

STEEL CASTINGS HANDBOOK, edited by Charles W. Briggs. Third Edition, 670 pages, illustrations, tables, charts. Steel Founders' Society of America, 606 Terminal Tower, Cleveland 13. No price given.

BULLETIN NO. 103. 96 pages, illustrations, maps. The Railway & Locomotive Historical Society, Inc., Baker Library, Harvard Business School, Boston Mass. $2 to members; $3 to nonmembers.

ENERGY IN THE AMERICAN ECONOMY, 1850-1975; An economic study of its history and prospects, by Sam H. Schurr and Bruce C. Netschert. 774 pages, tables, charts. Published for Resources for the Future, Inc., by the Johns Hopkins Press, Baltimore. $12.50.

AN INTRODUCTION TO TRANSPORTATION ENGINEERING, by William W. Hay. 505 pages, illustrations, charts, tables, maps. John Wiley & Sons, Inc., 440 Park Avenue South, New York 16. $11.75.

ACCIDENT BULLETIN, No. 128. Summary and Analysis of Accidents on Railroads in the United States Subject to the Interstate Commerce Act, Calendar Year 1959. 115 pages. Prepared by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. Available from the Government Printing Office, Washington 25, D.C., $3

PRINCIPLES OF PUBLIC UTILITY RATES, by James C. Bonbright. 433 pages. Columbia University Press, 2960 Broadway, New York 27. $10.

DICTIONARY OF MECHANICAL ENGINEERING, by Alfred Del Vecchio. 346 pages. The Philosophical Library, Inc., 15 E. 40th St., New York 16. $6.

CONDUCTING TRANSPORTATION, by B. H. Moore. 177 pages, illustrations, tables. The Accounting Division, Association of American Railroads, Transportation Bldg., Washington 6, D.C. $2.25. The purpose of this textbook is to correlate the accounting principles with the physical work of the Transportation Department.

RUSSIAN STEAM LOCOMOTIVES, by H. M. LeFleming and J. H. Price. 113 pages, illustrations, drawings. John Marshbank Limited, 90 Ebury St., London, S. W. 1, England. 25 shillings plus 1 shilling 6 pence for postage.

THE BEAUTY OF RAILWAYS, with an Introductory Essay by C. Hamilton Ellis. 128 pages containing 162 world-wide photographs. Pitman Publishing Corp., 2 West 45th St., New York 36. $7.50.

FROM THE MANUFACTURERS

WELDING OF FOIL, by John Campbell. 10 pages. Reprinted from Welding Journal, December, 1959. Available from Airco Company International, 150 E. 42nd st., New York 17. Free. Specify Form ADR 125.

W-390 POLE BUILDINGS BULLETIN. 4 pages, illustrations. Koppers Company, Inc., Wood Preserving Division, 750 Koppers Bldg., Pittsburgh 19. Free.

Soo Line Rate Argued at ICC

► **The Story at a Glance: Another guaranteed rate—the Soo Line's—is now before the ICC, which has just condemned a similar New York Central pricing plan (RA, March 6, p. 9). The Soo case reached the awaiting-decision stage last week after the Commission heard oral argument on Examiner Walter L. Baumgartner's proposed report which recommends that the guaranteed rate in issue be found unlawful under present provisions of the Interstate Commerce, Elkins and Sherman Antitrust Acts (RA, Aug. 15, 1960, p. 9).**

At last week's argument, Soo had support from all the railroads, and from the National Industrial Traffic League. The only arguments against the rate were made by counsel for truckers and water carriers.

Hearing oral argument last week on the Soo Line's guaranteed rate, the ICC also heard much comment on its recent decision condemning the similar New York Central rate. While railroad counsel argued that the Soo case has distinguishing characteristics which the Commission should have in mind, they also suggested that the decision in the NYC case should be reversed.

The Soo rate is a charge of $10.05 per net ton, carload minimum 80,000 lb, on wrought iron or steel pipe and tubing shipped from Sault Ste. Marie, Ont., to Chicago. It is available to shippers who agree to give participating railroads 90% of their Sault Ste. Marie-Chicago pipe tonnage. Soo published the tariff, and other roads with lines forming parts of Sault St. Marie-Chicago routes are also parties to it.

After having been suspended for more than a year, the rate became effective April 23, 1960. It has an expiration date of April 10. The guaranteed rate alternates with a normal commodity rate of $12.18 per net ton, which applies if the guaranty conditions are not met. While the guaranteed rate is available to any shipper, large or small, who meets the 90% requirement and the other conditions, it was published to get the business of Mannesman Tube Co.

The case was argued for Soo by its general attorney, C. H. Clay. He emphasized that the rate was published to meet the competition of water carriers whose rates were unregulated. He went on to point out that the condemned NYC rate on rugs and carpet moving between Amsterdam, N. Y., and Chicago, was designed to meet truck competition, including the competition of motor carriers whose rates are regulated.

Mr. Clay had numerous citations from court decisions which he interpreted as supporting his position that guaranteed rates cannot be condemned as unlawful per se. Thus, as Mr. Clay put it, the only question before the Commission is whether the particular rate in issue is unjustly discriminatory, unduly prejudicial or unreasonable. He contended that it should not be condemned on any of these grounds. He called it "more restrictive" than the agreed rates which have been in effect for sometime in Canada.

As to fears for the rate structure, like those expressed by the Commission in the NYC case, Mr. Clay said Soo does not think guaranteed rates would ever supplant the carload rate structure. He noted that the Canadian agreed rates have been in effect since 1938, but less than 8% of the total tonnage moves on them.

Mr. Clay added, however, that "there are many instances where rates similar to that involved here will serve a useful purpose, particularly with respect to meeting unregulated transportation." The guaranteed rate, Mr. Clay also said, "is simply an extension of the volume or incentive principle of rate-making, and is entitled to its place in the rate structure."

Summing up, Mr. Clay said three characteristics distinguish the Soo rate from the NYC rate—the competition is unregulated transportation; the shipper signs no contract; and there is no guaranteed delivery time. As to the latter, the NYC contract permits the shipper to cancel, without payment of regular rates on shipments already made, if NYC fails to deliver 70% of the traffic at Chicago on or before the sixth morning after its receipt at Amsterdam.

Supporting the Soo with an argument made on behalf of the Traffic Executive Association—Eastern Railroads, NYC's general solicitor, R. D. Brooks, said he felt a "little bruised" after the "shellacking" he got in the carpet case. He nevertheless proceeded with a vigorous argument to the effect that all questions raised by guaranteed freight rates are answered by what the Commission has done with passenger fares.

Mr. Brooks explained that all commutation tickets and other multiple-trip tickets involve guaranteed rates. He said that in many passenger-fare cases, the Commission has "shoved contract rates down the carriers' throats." And he argued that to prescribe or allow sale of multiple-trip tickets is "not one bit less arbitrary" than to approve the Soo rate with its 80% requirement assuring consistent use of the service.

Albert B. Russ, Jr., commerce attorney, Atlantic Coast Line, spoke for railroads in southern territory. He said they support the Soo because present conditions call for new pricing concepts if the railroads hope to meet the competition. ACL and Seaboard Air Line have two intrastate guaranteed rates in effect in Florida, Mr. Russ also said, adding that they went in without opposition.

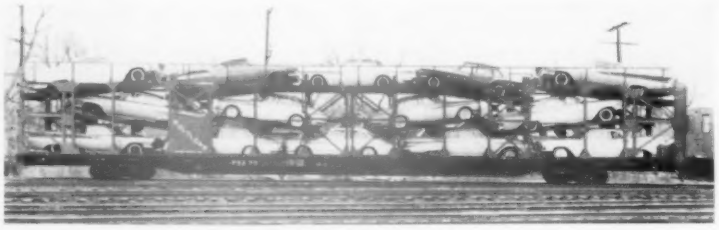
It was T. H. Maguire, chairman, Executive Committee—Western Traffic Association, who said the Commission "ought to change its mind" about the NYC case. He said the western roads support the Soo because they regard contract rates as one of many rate-making innovations which should be available to railroads under present competitive conditions.

Mr. Maguire also called attention to the National Industrial Traffic League's position in favor of the rate. He pointed out that the league's membership of 1,700 represents a cross-section of the country's shippers, large and small. The issue, he suggested, "should be weighed in light of the position taken by these people who will be affected."

The NITL then spoke for itself through its counsel, Robert N. Burchmore. He said the railroads are asking nothing more than freedom to experiment. Shippers, he added, don't want the hands of carriers tied, and the league would feel the same way if a like rate innovation were proposed by truckers or water carriers.

Mr. Burchmore emphasized that the league was not endorsing all agreed-rate proposals that might come along. It does think, however, that the Soo rate is a reasonable experiment of the type shippers approve.

Protestant arguments were made for the National Motor Freight Traffic Association by Fred H. Babson; for the Waterways Freight Bureau by Harry C. Ames; for the Great Lakes Ship Owners Association and Inland Waterways Conference by John H. Eisenhart, Jr.; and for the Steel Carriers Traffic Association by Ambrose A. Such. All supported Examiner Baumgartner's proposed findings calling for condemnation of the rate as unlawful.



New Multi-Level Auto Carriers: Space Savers

Increased utilization of available space is claimed for this newest addition to the growing fleet of multi-level auto carriers. Manufactured by Whitehead and Kales for Multi-Car Corp., the pilot model was mounted on a Pullman-Standard Lo-Dek flat car. Loaded with five compacts and nine standard autos, the Multi-Car Carrier measured 16 ft. 8 in. above the rail (conventional tri-levels mounted on a P-S Lo-Dek measure approximately 18 ft and bi-levels about 14 ft). Space saving is achieved by repositioning the autos in the two upper decks after they are tied down by means of electrically operated hydraulic pistons attached to the rack. W. O. Bridge, designer of Multi-Car Carrier, says that the car will be especially useful in the East.

Bankruptcy? Alpert Says 'No'

Is bankruptcy the next logical step for the financially-ailing New Haven? The New England Council thinks so—and so does an ICC staff lawyer. New Haven President George Alpert and others disagree sharply.

NEC, a Boston-based organization of business and financial interests, says bankruptcy proceedings would best insure "uninterrupted operation of the New Haven transportation plant and . . . ultimate physical and financial rehabilitation of that plant."

The ICC lawyer, Daniel M. O'Donoghue of the Bureau of Inquiry and Compliance, says bankruptcy would permit the New Haven to shrink its transportation plant to more realistic dimensions—perhaps go out of the passenger business entirely "except for a limited number of long-haul passenger trains from New York to Boston."

Mr. Alpert branded the NEC proposal as "one-sided . . . conceived in venom and dedicated to the proposition that the public be damned." He had no immediate comment on the O'Donoghue proposal.

The sequence of events leading up to the O'Donoghue proposal was this: Commissioner Charles A. Webb last year conducted, for the ICC, an investigation of the New Haven. The proposed report written by Mr. Webb and Examiner Richard S. Ries suggested financial relief, but said bankruptcy wasn't the answer.

Meanwhile, the ICC had made its own Bureau of Inquiry and Compliance a party to the investigation. Mr. O'Donoghue, who thinks bankruptcy *is* the answer, filed the Bureau's statement last week, technically in reply to exceptions filed earlier by the New Haven to the proposed Webb report.

Mr. O'Donoghue said proceedings under Section 77 of the Federal Bankruptcy Act would permit "an astute trustee" and other interested parties to "work out a reorganization plan suiting the New Haven plant to the level of services required by the area involved."

"If anything is apparent," said Mr. O'Donoghue, "it is that the New Haven, as it exists today, is not essential, but rather a new New Haven, with a plant shrunk to the size of its area need, is required. By shrinkage is meant a complete shrinkage, including dissolution of all satellite corporations except the New England Transportation Co., abandonment of all minor branch lines, reduction where possible of the main line to a single track operated in both directions under centralized traffic control, and sale of all unnecessary realty.

"It may also be desirable that the New Haven go out of the passenger business entirely, except for a limited number of long-haul passenger trains from New York to Boston." Commuter authorities could then be set up in the New York and Boston areas to operate commuter trains "by leasing and operating existing New Haven track and equipment."

ICC Chairman Everett Hutchinson issued a statement emphasizing that Mr. O'Donoghue wasn't speaking for the Commission. "The Bureau has the same position in this proceeding as far as the Commission's ultimate decision is concerned as does any other party to the proceeding," said Mr. Hutchinson.

NEC's bankruptcy proposal came several days before Mr. O'Donoghue's. It drew fire from several quarters.

Frederick S. Blackall, Jr., a past president of NEC and a New Haven director, called the action of NEC's Special Committee on Transportation "ill conceived" and "precipitate" and added:

"The conclusions are particularly unfortunate in that, for the first time in history, the federal, state and municipal governments have indicated a willingness to face up to the railroad problem and to recognize that if railroads are to survive, as indeed they must, something must be done by government to treat them at least on a parity with other forms of transportation now heavily subsidized, such as trucks, shipping lines, and the airways. Certainly the plans which, up to this point, were far advanced to solve the New Haven's problems without resort to bankruptcy should be given a fair trial. If they are not, I gravely fear that the Council's action may serve as a precedent which could trigger an avalanche of bankruptcies in the transportation field across the nation."

While the furor over the NEC report raged, the governors of New York, Connecticut, Massachusetts and Rhode Island went before their respective legislatures to recommend tax relief totaling $6,200,000 a year for the New Haven. The proposed tax relief is part of a program which, if completely successful, would save the New Haven a total of $13,700,000. It calls for, in addition to state and local tax relief, repeal of the federal excise tax on passenger fares, further increases in commutation and other passenger fares, and savings "resulting from cooperative action by bond holders and by labor and management in effecting savings from a reduction in operating costs and other expenditures."

It is this program which the NEC said would fall short of the New Haven's needs. The Council noted that the states are empowered to enact only about half of the program, including tax relief and part of the proposed fare increases.

In receivership, the Council said, the New Haven could achieve complete relief from payment of principal and interest on existing debt—except equipment obligations—including government-guaranteed loans. Meanwhile, NEC said, state and local authorities could still grant the road tax relief of $6.2 million a year. In any case, said the Council, the road could, in receivership, defer payment of "any state or local taxes" pending reorganization.

People in the News

ASSOCIATION OF AMERICAN RAILROADS.—Tom Fickett, vice president and director of government relations, National Coal Assn., named a vice president of the AAR, effective April 1. Mr. Pickett will fill the post left vacant by the death last October of **Walter J. Little.** Mr. Pickett is a former Congressman from Texas.

ATLANTIC COAST LINE.—H. V. Nelson, Jr., acting trainmaster, Dothan, Ala., appointed trainmaster there.

CANADIAN NATIONAL.—V. R. Cox, project engineer (access line), Toronto, appointed location engineer—system, Montreal.

R. Earl Rose, personnel assistant to vice president—traffic, appointed assistant manager—passenger sales, Montreal.

A. Murray McDaid, division freight agent, Moncton, N.B., appointed branch manager, freight sales, St. John, N.B.

CANADIAN PACIFIC.—F. K. Hollyman, freight traffic manager, Winnipeg, Man., appointed general freight traffic manager, Montreal, Que. **John Swinarton,** general freight agent, Atlantic region, Montreal, named assistant general freight traffic manager there. **E. M. Scully,** assistant freight traffic manager—system, rates and divisions, Montreal, appointed freight traffic manager—system, rates and divisions. **William Miller,** assistant to general traffic manager, Montreal, succeeds Mr. Scully. **V. R. Duncan,** assistant general freight traffic manager—system, appointed freight traffic manager, Prairie region, Winnipeg.

CENTRAL OF GEORGIA.—Ronald L. Coleman appointed director of public relations, Savannah, Ga. Mr. Coleman will be in charge of public, press and employee relations and will direct the advertising program of the road. He will continue to edit the monthly publication, The Right Way. Title of editor abolished.

G. C. Chester appointed communication engineer, Macon, Ga., succeeding **J. H. Walton,** resigned.

CHESAPEAKE & OHIO.—R. V. Wade appointed manager piggyback operations — system, Huntington, W. Va. Abolished position of assistant superintendent passenger service, formerly held by Mr. Wade. **William Hanschell, Jr.** named superintendent piggyback operations—Detroit area. Abolished position of assistant to regional manager, Detroit, formerly held by Mr. Henschell.

A. O. Ballinger appointed assistant electrical engineer—fixed property, Richmond, Va., succeeding the late **H. A. Witten.**

CHICAGO & EASTERN ILLINOIS.—R. A. Jordan appointed freight sales manager, New York, succeeding **W. M. Slavik,** resigned. **Raymond A. Lamberty** named general agent, Chicago, to succeed **Harvey C. Busch,** resigned.

MILWAUKEE.—Edwin C. Lange, chief clerk to the general passenger traffic manager, appointed assistant to general passenger traffic manager, Chicago. **Francis J. Galvin,** traveling freight and passenger agent, Mason City, Iowa, named division freight and passenger agent, Miles City, Mont.

Robert T. White, assistant traffic manager, Milwaukee, Wis., appointed traffic manager, Wisconsin region there. **Henry C. Hefty,** assistant general agent, Milwaukee, named foreign freight agent there.

NEW YORK CENTRAL.—Edward R. Ahlborn, assistant freight sales manager, New York, appointed freight sales manager there, succeeding **Neil R. McCormick,** appointed assistant director of foreign sales.

NICKEL PLATE.—Charles H. Garn, general passenger agent, Cleveland, and head of the passenger traffic department, retired Feb. 28, after 45 years of service.

O. D. S. Getzfread, general agent, Boston, named general New England freight agent there. **Walter A. George,** general agent—perishables, Boston, succeeds Mr. Getzfread.

NORFOLK & WESTERN.—Charles W. Walker, Jr., appointed general agent, Birmingham, Ala.

READING.—Frederick M. Ludwig, assistant general freight agent, Philadelphia, named district traffic manager, New York. **Frank J. Helms,** assistant general agent, New York, promoted to general agent, Cincinnati, Ohio, succeeding the late **H. P. Chatron. Edward W. Schaeffer,** assistant division freight agent, Philadelphia, appointed assistant general freight agent, Philadelphia. **Joseph P. Gavaghan, Jr.,** traveling freight agent, New York, succeeds Mr. Schaeffer.

J. A. Burke appointed superintendent, Reading division, Reading, Pa., succeeding **J. F. Gruber,** named superintendent—special duty. Abolished position of assistant to vice president—passenger research, formerly held by Mr. Burke.

REA EXPRESS.—Daniel J. Kerrigan, assistant director, Market Research division, New York, appointed assistant general traffic manager there.

William Q. Keenan, commerce counsel, appointed assistant general counsel, New York. **William J. Taylor,** member of the legal department of the **Pennsylvania,** succeeds Mr. Keenan.

SANTA FE.—William C. Burk, special representative, public relations, Topeka, Kan., named manager of public relations, Chicago, to succeed **George J. Handzik,** resigned.

SOO LINE.—Richard J. Barry, special assistant to the president, appointed comptroller, succeeding **Andrew T. Haugen,** retired.

SOUTHERN.—William V. Burke appointed to the newly created post of assistant vice president in charge of coordinated rail-highway operations, Washington, D. C.

Robert E. Kendall appointed industrial agent, Atlanta, Ga., succeeding **James C. Cook** (RA, Feb. 6, p. 28).

SOUTHERN PACIFIC.—J. M. DeMartini appointed assistant manager—systems research, San Francisco, Calif.

TEXAS & PACIFIC.—J. Gordon Corn, assistant general auditor, retired. **Emmett LaGrone,** statistician in the executive department, promoted to auditor, budget and statistics. **George M. Milldrum,** AFE and budget supervisor, named assistant auditor, budget and statistics.

Justin L. Riddle, contract supervisor, appointed transportation assistant.

(Continued on page 54)

Tom Pickett
AAR

F. K. Hollyman
CPR

John Swinarton
CPR

E. M. Scully
CPR

V. R. Duncan
CPR

Edward R. Ahlborn
NYC

William C. Burk
Santa Fe

Richard J. Barry
Soo Line

Stephen G. Peterson
Buffalo Brake Beam

Francis H. Boland, Jr.
ACF

THE ADLAKE MAN is lots of things to lots of people. To railroaders, he represents a century of service in supplying top quality windows, lamps, hardware, locks, relays, diaphragms and other products. A phone call, note or wire will bring the Adlake Man to your desk in a hurry, anxious to help in any way he can.

Adlake

The Adams & Westlake Company, Elkhart, Indiana, Phone COngress 4-1141. Chicago Sales Office: 135 S. LaSalle St., Phone FInancial 6-6232. New York Sales Office: 50 Church Street, Phone COurtland 7-0073.

(*Continued from page 53*)

Patrick H. Buchanan, chief clerk to the mechanical superintendent, named assistant to chief mechanical officer.

WESTERN MARYLAND.—**R. R. Holmes,** chief chemist, Hagerstown, Md., appointed engineer of tests there and his former position abolished.

Supply Trade

Stephen G. Peterson elected vice president, **Buffalo Brake Beam Co.** and the Unit Truck Corp., New York, succeeding **Charles R. Busch,** who retires March 15 after 41 years of service.

Francis H. Boland, Jr., has been elected a vice president of **ACF Industries, Inc.,** and appointed general manager, American Car & Foundry division, effective March 20. **Charles F. Venrick,** who formerly headed the division's railway sales at Chicago, has been appointed director of marketing for the division at New York. Mr. Boland has been executive vice president and director of the management consultant firm of George Fry & Associates, Inc.

Carl H. Luther has been appointed district sales manager, fiber glass division, Chicago sales office, **Pittsburgh Plate Glass Co.,** succeeding **Richard F. Siefert,** who has been appointed to the newly-created position of manager of filament winding marketing, Pittsburgh general office. Mr. Luther was formerly fiber glass sales representative at Chicago.

Charles T. Bowman has been named a sales representative, industrial products division, **Automatic Electric Sales,** Minneapolis territory. Mr. Bowman was formerly assistant to eastern district sales manager, New York.

George L. Wilcox, president of Canadian Westinghouse Co., Ltd., Hamilton, Ont., has been elected vice president and assistant to the president of **Westinghouse Electric Corp.,** at Pittsburgh, Pa.

Campbell A. Brown has become affiliated with **Ford-Lynch Associates** and that organization has been appointed sales representative to southeastern railroads by **Wix Corp.,** Gastonia, N.C.

George K. Hoblitzelle, secretary, **General Steel Castings Corp.,** Granite City, Ill., has been advanced to a vice president, **Taylor S. Desloge,** assistant secretary and assistant treasurer, named secretary and treasurer. **Richard T. Risk,** vice president and treasurer, will continue as a vice president and assume the responsibilities of controller.

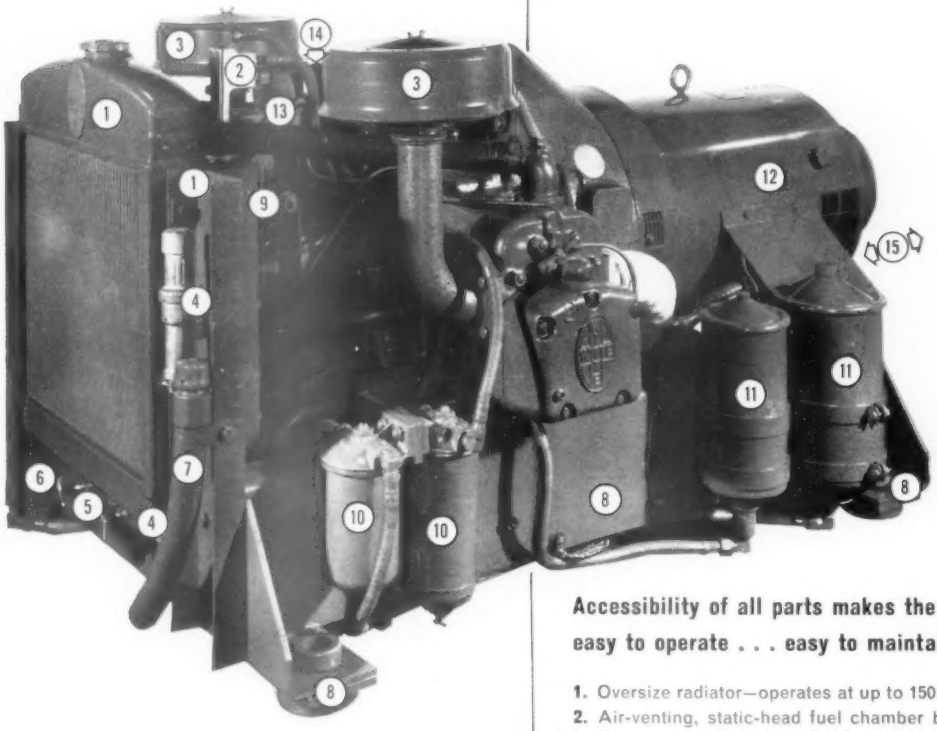
General Railway Signal Co. has acquired a controlling interest in **Cardion Electronics, Inc.,** Westbury, Long Island, N.Y. Cardion designs and manufacturers electronic control and communication equipment.

OBITUARY

John T. Cralley, 80, retired vice president, **Standard Railway Equipment Division of Stanray Corp.,** died Feb. 25 at Santa Barbara, Calif.

A. Perry Everstine, 61, treasurer and assistant secretary of **Schaefer Equipment Co.,** Pittsburgh, Pa., died Feb. 24 after a lingering illness.

Witte Diesel Engine-Generator Units are Built Low, Time-Tested and Packed with Endurance



Especially built for demanding refrigeration service, the Witte Model 100RDA, Type "E", 12½ KW Diesel Engine-Generator Unit has a 60 cycle-40 cycle brushless generator and Witte two-cylinder, horizontally-opposed, 4 cycle Diesel Engine.

The Railway Mechanical Refrigeration Industry is relatively new . . . yet Witte has been active as a power supplier in the field for over five years. Repeat orders from users attest to built-in quality and reliable performance. These fine railroad units are backed by a world-known organization.

Witte . . . noted for long-lived, continuous-running engines . . . is continually proving the capability of this railway unit in mechanical refrigeration applications—where only a "live" engine is an acceptable one.

USS and Witte are registered trademarks

Witte Engine Works
Oil Well Supply
Division of
United States Steel

USS

1615 Oakland Avenue, Kansas City 26, Missouri

Accessibility of all parts makes the Witte easy to operate . . . easy to maintain.

1. Oversize radiator—operates at up to 150°F. ambient.

2. Air-venting, static-head fuel chamber built into injection pump—eliminates shutdown from air leaks in car's fuel system.

3. Dry type air cleaners—quickly and easily serviced.

4. Ether injection system—for cold starting.

5. Starting control (one lever provides all starting functions).

6. Stop control.

7. Extra length, lube-oil, dump hose—completely drains sump.

8. Extra-heavy, rigid, skid-support with oversize shock mounts.

9. Two-speed engine control (1800 rpm—"pull-down" speed) for maximum fuel economy (1200 rpm—"holding" speed) Thermostat actuated.

10. Primary and secondary fuel filters.

11. Bypass, Full Flow lube oil filters—1200 hr. change period.

12. 12½ KW (continuous rating) brushless generator—operates at 60 cycles ("pull-down") 40 cycles ("holding").

13. Mechanical, safety shutdown—built into injection pump.

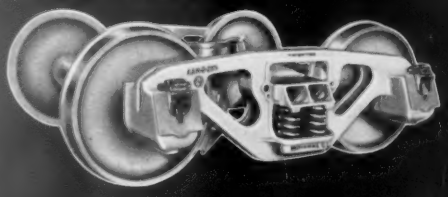
14. Load Compensator Switch—extends the functioning of the mechanical safety control to meet abnormal, transient temperature conditions.

15. Center-of-Mass of the Witte unit is less than 16 inches off the car floor—optimum installation to handle car humps, shocks and over-the-road vibration.

All accessories are readily accessible.

ECONOMICAL AND DEPENDABLE

for sure...



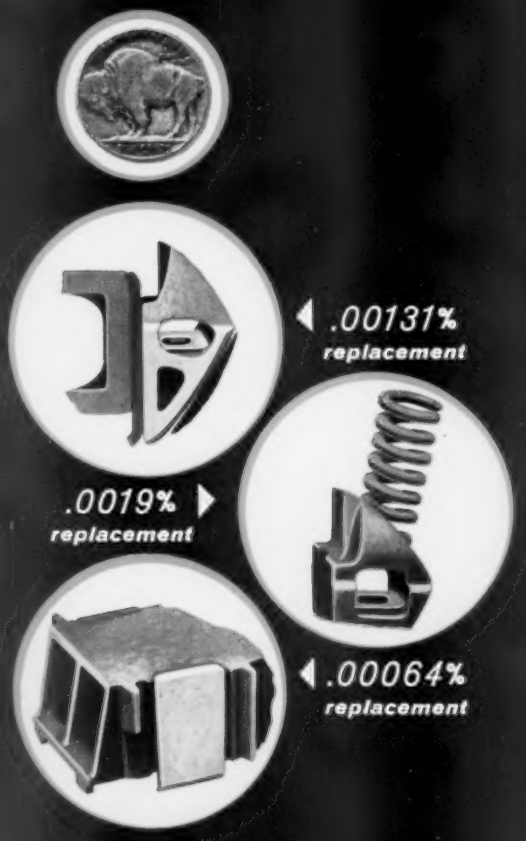
NATIONAL

COST LESS THAN 5¢ PER TRUCK FOR ALL PARTS REPLACEMENT IN 12 YEARS' SERVICE

Basic design of the National C-1 Truck has remained unchanged since its introduction over 12 years ago—because the C-1 design was right to begin with and needed no change. Strong claims? For sure. But here's proof of the soundness of C-1 Truck design.

Service parts records show an average replacement rate of only .00129% for wedges, wedge springs and wear plates.

In spite of hundreds of thousands of miles of service, replacement parts costs averaged under 10¢ per carset—less than 5¢ per National C-1 Truck in service.



A-1907A

C-1 TRUCKS

Transportation Products Division

International Division Headquarters
Cleveland 6, Ohio

CANADIAN SUBSIDIARY
National Malleable and Steel Castings Company of Canada, Ltd., Toronto 2B, Ontario

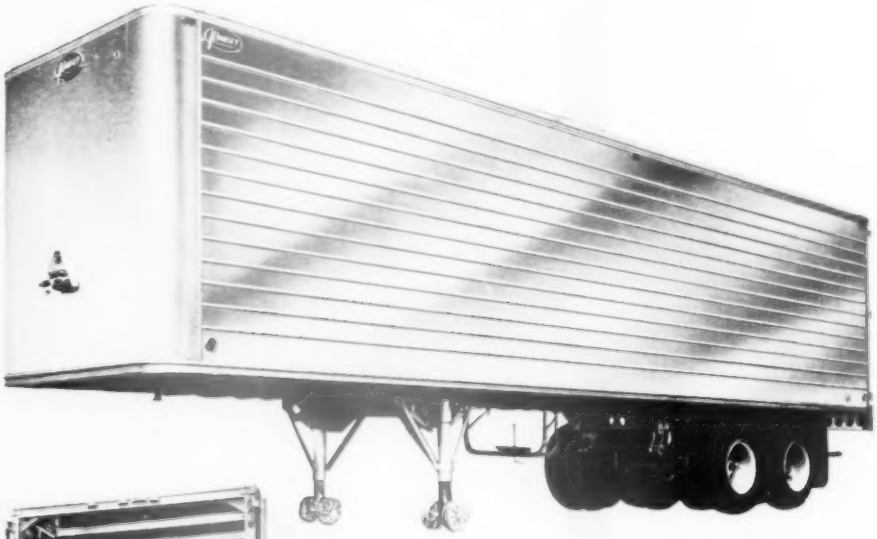
NATIONAL
MALLEABLE AND STEEL
CASTINGS COMPANY
Cleveland 6, Ohio

COUPLERS • YOKES • DRAFT GEARS • FREIGHT TRUCKS • JOURNAL BOXES
NATIONAL SPEEDLOADER CONTAINER HANDLING SYSTEM

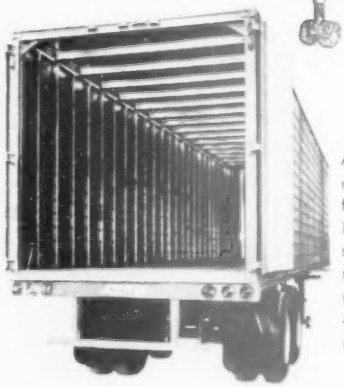
WHY DORSEY DESIGN MEANS BETTER PIGGYBACK SERVICE

Millions of ton-miles of faithful service under the most strenuous conditions establish two Dorsey models as ideal answers to the primary requirements for profitable piggyback trailer operation—ruggedness, payload capacity and economy.

The operating records of hundreds of present owners prove that dependability is beyond question with either the Dorsey Champion or the lower-priced Dorsey Atlas. This means a tremendous saving in time and money to executives approaching the problem of specifying piggyback equipment: the basic design work has already been accomplished and only details remain. And Dorsey Special Products Division engineers are at your service for this purpose.



CHAMPION—Stressed skin and tubular steel X-bracing are combined in this exclusive Dorsey design to make this popular model the industry's toughest lightweight medium-priced trailer. Aluminum sheets and structural components are optional.



ATLAS—Drivmatic machine riveting adapted by Dorsey from the aircraft industry is the secret of the unusual strength of the Atlas' true monocoque structure. Drivmatic-riveted joints are 40% stronger than ordinary riveting.

This rugged upper fifth wheel is just one of the many design features that make Dorsey Trailers noted for outstanding dependability. The pickup plate spans the width of the trailer and turns up 4" at the outer edge to form a structural reinforcement.

Let our engineers help you "tailor your trailers" to meet any piggyback requirements.

DORSEY TRAILERS®

Address:
Special Products Division
DORSEY TRAILERS
ELBA, ALABAMA
A Subsidiary of The Dorsey Corporation

MARKET OUTLOOK *at a glance*

Carloadings Rise 7.0% Above Previous Week's

Loadings of revenue freight in the week ended March 4 totaled 501,121 cars, the Association of American Railroads announced on March 9. This was an increase of 32,639 cars, or 7.0%, compared with the previous holiday week; a decrease of 56,878 cars, or 10.2%, compared with the corresponding week last year; and a decrease of 94,354 cars, or 15.8%, compared with the equivalent 1959 week.

Loadings of revenue freight for the week ended Feb. 25 totaled 468,482 cars; the summary, compiled by the Car Service Division, AAR, follows:

REVENUE FREIGHT CARLOADINGS
For the week ended Saturday, Feb. 25

District	1961	1960	1959
Eastern	70,825	88,877	91,163
Allegheny	77,953	108,637	104,534
Pocahontas	40,042	50,433	50,085
Southern	93,168	104,457	113,095
Northwestern	51,573	58,459	59,756
Central Western	94,694	100,246	111,555
Southwestern	40,227	42,773	45,146
Total Western Districts	186,494	201,478	216,457
Total All Roads	468,482	553,882	575,334
Commodities:			
Grain and grain products	51,883	42,407	52,563
Livestock	2,771	3,348	3,584
Coal	86,687	108,179	109,499
Coke	5,278	11,693	10,586
Forest Products	30,969	36,111	38,697
Ore	11,066	20,232	16,284
Merchandise l.c.l.	27,941	33,612	38,689
Miscellaneous	251,887	298,300	305,432
Feb. 25	468,482	553,882	575,334
Feb. 18	502,334	570,099	583,741
Feb. 11	486,347	580,150	567,188
Feb. 4	497,630	587,981	565,752
Jan. 28	476,403	603,195	582,456
Cumulative total, 8 weeks	3,876,648	4,678,308	4,567,229

PIGGYBACK CARLOADINGS.—U. S. piggyback loadings for the week ended Feb. 25 totaled 10,123 cars, compared with 9,999 for the corresponding 1960 week. Loadings for 1961 up to Feb. 25 totaled 79,119 cars, compared with 79,869 for the corresponding period of 1960.

IN CANADA.—Carloadings for the seven-day period ended Feb. 21 totaled 57,976 cars, compared with 60,132 for the previous seven-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada		
Feb. 21, 1961	57,976	25,526
Feb. 21, 1960	66,077	30,212
Cumulative Totals		
Feb. 21, 1961	427,952	182,805
Feb. 21, 1960	467,821	216,280

New Equipment

PASSENGER-TRAIN CARS

► *Port of New York Authority.*—Will receive bids on April 20 for "some 50" new commuter cars for use by the New York Central. The electric-powered air-conditioned coaches will be leased to the Central for use between New York and Harmon and New York and North White Plains. They are expected to be in service early in 1962.

FREIGHT-TRAIN CARS—SPECIAL

► *February Bad Order Ratio 2.4% Higher Than Last Year.*—Class I roads on Feb. 1 owned 1,659,259 freight cars, 16,453 less than a year ago, according to AAR report summarized below; Bad Order ratio was 2.4% higher than on Feb. 1, 1960.

	Feb. 1, 1961	Feb. 1, 1960	Change
Car ownership	1,659,259	1,675,712	−16,453
Waiting repairs	161,090	122,885	+38,205
Repair ratio	9.7%	7.3%	+2.4%

New Facilities

► *Oregon Trunk.*—Authorized installation of 18,700 feet of slide-detector fence by company forces at an estimated cost of $106,450.

► *Rio Grande.*—Placed in service (March 6) a 5,300-mile high-speed private wire telegraph network leased from Western Union, to speed flow of messages between off-line traffic offices and system headquarters in Denver. Two circuits radiating east and west from Denver are equipped with electronic selectors which enable any two stations to communicate independently. Equipment also permits transmittal of messages to any desired group of stations or to all offices simultaneously. System is equipped with printers capable of receiving messages at a rate of 3,600 words per hour.

► *Seaboard.*—Will build a new freight station and warehouse at the north end of its yard in Raleigh, N. C., at an estimated cost of $100,000, exclusive of improvements to the site. The new freight station will be 40 ft wide by 180 ft long with warehouse space of 3,900 sq ft.

► *Spokane, Portland & Seattle.*—Company forces will re-lay seven miles of main-line track with welded rail and 10.8 miles with conventional rail at various locations at a cost of $832,000.

► *Terminal Railroad Association of St. Louis.*—Three major projects will involve expenditure of approximately $2.2 million. Largest expenditure will be $1,750,000 for installation of complete system for automation of mail handling facilities. Work is scheduled for completion in November 1962. Other TRRA projects: Remodeling of office area in St. Louis Union Station to provide space for installation of IBM 702 computer, $250,000 (overall estimated cost); and installation of automatic gates and flashers to replace manual gates and watchmen at seven street crossings, $200,000. Both projects are scheduled for 1961 completion.

a RAILWAY AGE time-saver page

AREA Views New Equipment,

► **The Story at a Glance: Engineering officers of the American railroads, meeting at Chicago last week, were told of new areas where engineering development would produce "rewarding" results. Some of the more interesting research projects planned by the AAR research staff, types of machines still needed by the M/W forces, recent engineering developments in concrete construction, and applications of epoxy resins in railway structures were among other subjects discussed by speakers at the meeting.**

Major speakers at the annual meeting of the American Railway Engineering Association last week may have been inspired by the ultra-modern nature of their surroundings.

Locale of the meeting was Chicago's brand new exposition center known as McCormick Place. More important, perhaps, in establishing the mood of the meeting was the fact that the latest equipment and materials for constructing and maintaining railway tracks and structures were on display in the same building. The exhibition, the largest of its kind ever held, was sponsored by the National Railway Appliances Association.

In any event, all of the principal addresses stressed present and future progress in railway engineering technology. In the keynote address, delivered at the opening session March 7 by C. D. Buford, vice president, Operations and Maintenance Department, AAR, "rewarding opportunities" for further engineering development were spelled out. These included the mechanized handling of packaged freight, and the need for "aggressive programs aimed at fitting railroad plant to current and prospective traffic levels" and "better utilization of the most desirable facilities . . . " There is also a need, declared Mr. Buford, for "new thinking on better utilization of railroad property, benefits to be had from yard revision," and "cooperative planning with communities to solve transportation problems."

"A concept urgently in need of careful analysis and planning," stated Mr. Buford, "is the integration of truck and container terminal facilities with railroad terminal yard facilities. The cost of providing switching service in industrial terminal territories is extremely high. A possible solution is to develop specialized rail cars for transferring bulk commodities to dump trucks just as containers may now be transferred to flatbed trucks. The transfers could be made in the vicinity of primary terminal classification yards so as to obtain quick delivery in major urban areas. The results should be faster release of rail equipment and dramatic improvements in equipment utilization."

"Your engineering ingenuity," continued Mr. Buford, "may also find fruitful expression in the automation of warehousing, package handling and sorting. Automated operations of this character now exist in the military establishment and in the automobile industry. Railroads have made a start in the automatic handling of mail and parcel post. Extension to other traffic could result in savings that would enable railroads to regain much of the package business they have lost."

W. M. Keller, vice president — research, AAR, said that "several interesting and imaginative types of projects" are proposed in the AAR's 1961 research program for track and structures. The possibilities of using means other than chemical for control of vegetation will be studied, he said. "We do not know now what these means are, or we would, of course, not have a research project, but the type of destruction we are contemplating might include ultrasonic vibration, high-intensity heat rays, radiation energy, or perhaps even some type of power-driven contacting rollers that would literally pull weeds and brush out by their roots."

It is also proposed, said Mr. Keller, "to continue our development work on prestressed concrete ties, and we are concentrating particularly on improvement in the fastening means, studying the possible use of epoxies to provide a simpler and more easily insulated fastening. In fact, some thought is being given to elimination of tie plates, particularly for yard use, using an epoxy to glue panels of concrete ties together. These panels would then be laid in track as is the practice in Europe, and jointed with bolted joints or field welds."

In its efforts to improve the construction of insulated rail joints, the AAR research staff, said Mr. Keller, is working with manufacturers of new types of plastic materials "to see whether the full joint bar can be made from these materials which are not

BOARD OF DIRECTION of AREA

in session on Monday, March 6, the day before the convention opened.

Pictured, left to right around table—A. B. Hillman, treasurer (retired chief engineer, Belt Railway of Chicago—C&WI); T. M. von Sprecken, director (retired assistant to chief engineer, Southern); W. B. Throckmorton, director (chief engineer, Rock Island); T. F. Burris, director (chief engineer system C&O); W. E. Cornell, director (engineer of track, Nickel Plate); J. A. Bunjer, director (chief engineer, UP); Norris E. Engman, assistant to secretary; Nancy Campbell, stenographer-clerk; N. D. Howard, executive secretary; R. H. Beeder, senior vice president (chief engineer system, Santa Fe); E. J. Brown, president (chief engineer, Burlington Lines); C. J. Code, junior vice president (assistant chief engineer-staff, PRR); B. R. Meyers, past president (vice president and chief engineer, C&NW); F. R. Woolford, past president (chief engineer, WP); F. L. Etchison, director (chief engineer, WM); C. J. Henry, director (chief engineer, PRR); J. M. Trissal, director (vice president and chief engineer, IC); W. W. Hay, director (professor of railway civil engineering, University of Illinois); W. J. Cruse, director (engineer M/W, GN).

Explores Engineering Gains

conductors of electricity and would therefore simplify the insulation problem."

The staff is also "contemplating some studies with laminated hardwood pads glued to the top of wood ties before they are treated. These pads would be the same size as the tie plate and would thus insure drainage of the water from under the plate until the pad was worn away. We are at the present time conducting studies in our tie-wear machine at the Research Center with tie plates glued to the ties with epoxy resins."

Another speaker with eyes on the future was C. J. Henry, chief engineer, Pennsylvania. Saying that there "will always be a need for new machines," Mr. Henry said these needs include "a device for inspecting track that will record gage and cross-level conditions and operate over track at an average speed of over eight miles an hour, a machine that will tighten bolts at the rate of one mile per hour, and brush-cutting machines adaptable for use on rough terrain." He also mentioned the need for "a dependable soil sterilant that may be applied at a cost of $10 per acre, a centralized traffic control system that may be installed for $5,000 per mile, a dependable snow-melting device for switches that will function in winds of 25 mph at sub-zero temperatures, improved welding machines for bridge repairs and off track tamping equipment."

Mr. Henry also spoke of the use of method studies to increase productivity. "First a study is made," he said, "using one or more of the available techniques to determine the actual time required from each part of the job. This is broken down into sufficient detail to permit a complete analysis of the process. The information can then be plotted on charts to determine how unproductive time may be reduced. A motion picture camera is helpful for time studies, and is especially valuable for studying gangs which otherwise would require several observers with stop watches."

As a means of keeping unit costs under control, Mr. Henry pointed out that "the use of the same operating personnel during summer months for repairs and overhauling of machines during off-season periods provides steady employment, reduces labor turnover and develops skilled mechanics."

"A present-day budget," said Mr. Henry, "may be defined as a method of worrying before you spend, instead of afterward."

Recent engineering advancements in concrete construction that are of especial significance to the railroads were the subject of an address by James D. Piper, vice president for promotion, Portland Cement Association. "Probably the most dramatic advance in construction," he said, "is the use of shell concrete to form the new shapes in roofs for applications such as warehouses, terminals and shelters. All or many of these new shapes accentuate a futuristic outlook; they are not combinations of artistic gingerbread. In the most practical sense, they represent technological improvements that make possible roof spans of a hundred or more feet with as little as three to four inches in thickness . . . This, of course, means less material, therefore, less total cost."

Types of concrete shells used in railroad structures, as described by Mr. Piper, include the multiple-barrel shell, "with its graceful accommodations of vast storage areas," the folded-plate concrete roof, and the hyperbolic paraboloid shell. Shell-type structures, said Mr. Piper, "combine practicability, economy and beauty in a fashion that is unique in construction today."

Discussing prestressed concrete as "a second important development in the field of concrete construction," Mr. Piper described a number of railroad bridges and buildings constructed of this material. But it is the concrete crosstie, he said, that "has really moved to the center of the stage." In support of this statement he cited test installations of such ties that have been installed on the Seaboard Air Line, the Atlantic Coast Line and the Western Pacific.

"Epoxy Resin — A New Tool for the Railroad Industry," was the subject of an address by Dr. W. J. Belanger, director of resin development of Jones-Dabney Co., a division of Devoe & Raynolds Co., Inc. Dr. Belanger listed these possible uses of epoxy resins in the railroad industry: (1) Bonding old concrete to new concrete; (2) surfacing car-washing platforms; (3) splicing concrete piles; (4) protection against corrosion; (5) bonding a composite section of concrete and steel; (6) fastening masonry plates to concrete; and (7) waterproofing of concrete.

(Continued on page 63)

New from Baldwin...

Wear-resistant ring carrier piston with 3 to 4 times the life of a solid aluminum piston!

Here at B-L-H we are pushing ahead vigorously our program of 600 Series engine improvements.

The demand for increased horsepower, for higher gas pressures, and for higher operating temperatures has resulted in pounding and in premature ring groove wear with the solid aluminum piston, thus shortening the life of the piston and associated parts.

But Baldwin has now licked this problem. The solution is our new aluminum alloy piston with Ni-Resist* cast iron ring carrier. The life of this new piston is three to four times that of a solid aluminum one. Moreover, piston ring and liner are also significantly more durable and maintenance costs are sharply reduced.

These new Baldwin 600 Series pistons are now available. Four strategically located warehouses—Atlanta, Eddystone, Pa., Aurora, Ill., and San Francisco—are ready to fill your order at once. And convenient B-L-H district sales offices are always at your service.

*A trademark of International Nickel Co.

BALDWIN · LIMA · HAMILTON

Industrial Equipment Division • Philadelphia 42, Pa.

(*Continued from page 61*)

In the election of officers announced at the annual luncheon on March 8, R. H. Beeder, chief engineer system, Santa Fe, was advanced from senior vice president to president; C. J. Code, assistant chief engineer—staff, Pennsylvania, was automatically advanced from junior vice president to senior vice president; and L. A. Loggins, chief engineer—Southern Pacific Lines in Texas and Louisiana, was elected junior vice president. New directors are J. H. Brown, assistant chief engineer western district, Frisco; J. E. Eisemann, chief engineer western lines, Santa Fe; W. H. Huffman, assistant chief engineer—construction, North Western; and F. R. Smith, chief engineer, Union Railroad. New members of the nominating committee are C. E. Ekberg, Jr., head of the department of civil engineering, Iowa State University; C. E. Weller, assistant engineer maintenance of way, Illinois Central; W. L. Young, chief engineer, Norfolk & Western; John Ayer, Jr., chief engineer, Denver & Rio Grande Western; and C. E. Aefendorf, chief engineer, New York Central.

Use of Former NYC Line Relieves Boston Congestion

Rapid transit service operated by a public authority over a former New York Central branch line extending 12 miles west from Boston has freed the equivalent of one traffic lane in the metropolitan highway system during rush hours. This Metropolitan Transit Authority service on the Highland Branch from the western edge of Newton, Mass., into the Boston subway system has reduced peak period traffic congestion in downtown Boston by about 7% and frees 1,300 downtown parking spaces for other use.

These were the findings of a passenger survey made by the Greater Boston Economic Study Committee nine months after the MTA Highland Branch operation began on July 1, 1959. Boston & Albany (NYC) train service over the line had ended 13 months earlier, in June 1958, when the MTA purchased the line and began to convert it for the rapid transit operation (RA, July 13, 1959, p. 18).

After its first nine months of operation the MTA Highland Branch was handling 26,000 daily passengers, a patronage ten times greater than that on the rush-hour-only commuter trains which had been operated by the New York Central. The GBESC survey sought primarily to determine why and how passengers were using the line.

Primary conclusions were that the Highland branch has made it easier for all residents of the western suburbs affected to reach downtown Boston; that a large proportion of the riders have become habitual users; and that over half the passenger trips originate or terminate in suburban areas not previously served by rapid transit.

"Only the passage of time," the GBESC reports, "will show how the regional land use pattern is altered by a rapid transit extension, whether mass transit can generate ridership in areas of great population growth but relatively low population density, and finally, how the cost of serving outlying municipalities by mass transit compares with the cost of building more expressways and streets.

"A basic policy choice must soon be made by the Boston metropolitan community," the recently-released report concludes. "The choice is between development influenced by a transportation network which includes more rapid transit extensions, or growth unaffected by them."

Congratulations to
Trailer Train Company
on their
Fifth Anniversary

As a supplier of foundation brake gear appliances on T.T.X. cars, we compliment the Trailer Train Company on their rapid growth and wish them continued success.

Schaefer Equipment Company

Koppers Building, Pittsburgh 19, Pa.

You Ought To Know...

Rate-making freedom contemplated by the 1958 Transportation Act would be severely restricted by Senate Bill 1197, sponsored by five members of the Interstate Commerce Committee — Senators Bartlett of Alaska, Cotton of New Hampshire, Monroney of Oklahoma, Yarborough of Texas and Hartke of Indiana. The bill would emasculate Section 15a(3), the rate-freedom section, by adding provisions stipulating that ICC consideration of competitive rates must include consideration of the effect of proposed rates on the earnings of carriers proposing them, the competitive necessity for the rates, the effect "upon a lawful rate structure," and the tendency "to cast an unjust burden upon other traffic."

C&NW has appealed to the Minnesota Supreme Court a recent district court decision calling "unreasonable and unlawful" a 1958 Minnesota Railroad and Warehouse Commission order authorizing North Western's central station agency plan in that state.

The Mexican embargo which has been in effect nearly 20 years was canceled Jan. 9 by the AAR. The embargo maintained a permit system for shipments into Mexico via National Railways of Mexico. First established early in World War II by a now-expired ICC service order, the embargo was continued in effect by the AAR at the request of the National Railways. The cancellation was also at the request of National.

Caterpillar Tractor Co. has been awarded the 1960 George Washington Honor Medal by the Freedoms Foundation in recognition of its "National Goals" advertising program to stir public awareness of the country's growth needs in various fields.

A wage increase of five cents per hour "to conform to the non-op pattern" has been recommended for lighter captains employed in New York harbor marine services of eight railroads. The recommendation came from an emergency board which also recommended that other demands of the Lighter Captains Union, such as proposals for more liberal vacations and health and welfare benefits, be settled on the non-op basis, too. The board recommended that a job assignment issue be referred to the Presidential Railroad Commission.

Suburban officials along the route of the Chicago North Shore & Milwaukee are asking the ICC to delay the road's abandonment to give them more time to find a way to keep the commuter line operating. Possible solutions include requests for state, county and municipal support of mass transit facilities and the possibility of having the Chicago Transit Authority take over CNS&M operations.

Unions constitute the only "obstruction" to many "necessary" railroad mergers, William Wyer, president of Wyer, Dick & Co., told the New Jersey Industrial Traffic League in Newark. He said the "public interest" appears to be paramount in the ICC's consideration of merger proposals.

A Great Northern fireman, 29-year-old Melvin L. Rake of Seattle, Wash., has been named "Locomotive Fireman of 1960" by the Brotherhood of Locomotive Firemen & Enginemen. Mr. Rake, who will receive $500 at a banquet in Washington, D.C., March 21, was cited for heroism shown when GN's "Empire Builder" was hit by a landslide near Seattle Dec. 27, 1959.

Ben Colman, vice president of Evans Products Co., has been awarded the Distinguished Service Award for 1960 by the National Defense Transportation Association. Mr. Colman, who was national vice president of NDTA for eight years, organized and was chairman of the NDTA Natural Disaster Committee.

A central reservation bureau for the handling of all Pullman and reserved seat coach space on north- and west-bound trains has been opened by Atlantic Coast Line in its new general office building at Jacksonville, Fla. A closed-circuit tele-typewriter system links the bureau with 16 major cities. Points not served by the teletype system use either ACL or Western Union wire service or long distance telephone.

Prizes totaling $4,000 will be awarded by Maine Central and Bangor & Aroostook to the four high school students who write the best essays on the subject, "What Maine's Railroads Mean to the Economy of Maine and the Future of Its Industries." The college-fund essay contest is part of the "Maine Railroad Week" observance.

An all-container rail car, "designed and built exclusively for the interchangeable handling of both large and small containers in standardized modular sizes," was unveiled March 8 at Washington's Union Station by REA Express. The car was built by Pullman-Standard and the containers by its affiliate, Trailmobile. Following operational runs with express shipments over seven railroads and public displays at nine southern and midwestern cities, the new equipment will go into regular passenger-train service on the Pennsylvania between New York and St. Louis.

N&W President S. T. Saunders will receive the Harry E. Salzberg Medal for "distinguished contributions to transportation" and deliver the 13th annual Salzberg Lecture at Syracuse (N.Y.) University April 10. An all-day Syracuse Transportation Conference on "Railroads in the 1960's" will precede the lecture. Speakers will include P&LE President J. W. Barriger; U.S. Freight Co. President Morris Forgash; and Dr. Ernest W. Williams, Jr., Columbia University professor of transportation. AAR Vice President Philip A. Hollar will serve as moderator. J. G. Lyne, editor of Railway Age, will summarize the conference.

CLASSIFIED ADVERTISEMENTS

FOR SALE
REBUILT
RAILROAD CARS FOR INTERPLANT USE
GONDOLAS • BOX • FLAT
ERMAN-HOWELL DIVISION
LURIA STEEL & TRADING CORP.
332 South Michigan Avenue
Chicago 4, Illinois
WEbster 9-0500

Car Foreman
Required for well established Car Shop in Chicago area. Excellent opportunity for right man. Furnish full record of experience with application. All applications held confidential. Box 948 Railway Age, 30 Church Street, New York 7, N. Y.

MORT CLARK'S **GALV-WELD** ALLOY ORIGINAL & GENUINE

Lick underframe and all other corrosion problems forever with Genuine Galv-Weld. Easily applied. Write for details and free sample. GALV-WELD PRODUCTS, Dept. RA, P. O. Box 1303, Bradenton, Florida.

FROG AND SWITCH MANUFACTURER
Needs an office man for frog, switch and forge plant capable of estimating jobs, keep cost and time records. Engineering and accounting aptitude. Airmail reply giving particulars about yourself such as training, schooling, experience and last three employers, marital status, age and salary expected. Attention Mr. L. L. S. Nelson, Nelson Iron Works, Inc., 45 Spokane Street, Seattle 4, Washington.

WANTED
LOCOMOTIVE CRANE
AMERICAN, 30 to 40-Ton DIESEL-ELECTRIC. Prefer generator equipped for magnet operation.
Must be late model and in good operating condition. Address Box 952 Railway Age, 30 Church Street, New York 7, N. Y.

REPRESENTATIVES WANTED
Prominent manufacturer of journal box specialty seeks representative in St. Louis area, Pacific Coast, and Minneapolis area. Commission basis only. Only sales representatives with established following among railroad purchasing and mechanical officials need apply. Write giving full particulars. Box 313, RAILWAY AGE, 79 West Monroe Street, Chicago 3, Illinois.

DATA SHEETS

A 32 page booklet, "Meters and Test Equipment" covers such subjects as Basic Meter Movements, Ammeters, Voltmeters, Insulation Testers, Decibel Measurements, Oscilloscopes, and the West Test Set. A brief test of the material covered is included. The booklet is designed to give the signal and communications maintainer or helper valuable information on his most important tool—his test equipment. Available at 50 cents each from

Robert W. McKnight, Editor
Railway Signaling and Communications
Dept. RA, 30 Church Street, New York 7, N. Y.

Congratulations
to
TRAILER TRAIN COMPANY
for
Five Years
of
Remarkable Progress

A. STUCKI CO.
1911 — Side Bearings — 1961
Pittsburgh, Pa.

Advertisers' Index

American Car & Foundry Division
ACF Industries, Inc 18
Adams & Westlake Company, The 54
American Brake Shoe 46, 47
American SAB Company 42
American Steel Foundries 20, 21
Baldwin-Lima-Hamilton Corporation 62
Industrial Equipment Division
Bethlehem Steel Company 30, 31
Buckeye Steel Castings Company 41
Buffalo Brake Beam Company ..... Inside Front Cover
Chipman Chemical Company, Inc. 40
Dorsey Trailers, Inc. 58
Erman-Howell Division Luria Steel & Trading Corp. 65
Esso Standard, Division of Humble Oil & Refining Co. .. 25
Galv-Weld Products 65
General American Transportation Corporation 14, 38, 39
General Railway Signal Company ..... Back Cover
Griffin Wheel Company 29
Hyatt Bearings Division General Motors Corp. 7
Jackson Vibrators, Inc. 22, 23
Miner, Inc., W. H. 3
Motorola Communications & Electronics, Inc. 44, 45
National Malleable & Steel Castings Company 56, 57
New York Air Brake Company 33
Pittsburgh Plate Glass Co., Industrial Paint Division 8
Pullman-Standard 26, 27
Railway Maintenance Corp. 50
Schaefer Equipment Company 63
Standard Car Truck Company 49
Stucki Company, A. 65
Symington-Wayne Corporation ..... Inside Back Cover
Timken Roller Bearing Company, The 12, 13
Trailer Train Company 34, 35
Union Switch & Signal, Division of
Westinghouse Air Brake Co. 4
United States Steel Corporation 55
Vapor Heating Corporation 37
Waugh Equipment Division, Symington Wayne Corp. 11

TOFC—Let's Get On With It

In 1960 U.S. railroads moved 554 thousand carloads of piggyback trailers, an increase of 33% over 1959. Up to February 18 of the current year, the total was about 1,000 less than in the comparable 1960 period. Poor business conditions and adverse weather have doubtless accounted in large part for this easing off in trailers-on-flat-car traffic. But there are other retarding factors at work too—and they just must be corrected, not only in the interest of the railroads, but in the public interest as well.

First and foremost among the roadblocks, which in recent months have been piled in the path of TOFC progress, are: (1) the adverse report of Examiner Dahan on Plans III and IV piggyback (RA, Aug. 22, p. 9); and (2) the decision of the ICC in the so-called Pan-Atlantic case (RA, Jan. 16, p. 9), requiring railroads to hold a high-rate "umbrella" on their piggyback service between Atlantic seaboard and Gulf points, in order to give "fishyback" trailers an arbitrary advantage in competitive pricing.

Some ICC members—and some hearing examiners—are, apparently, quite unconcerned to see railroads earning only 2% on their investment; and are happy to oblige coastwise and highway carriers by denying railroads an opportunity to increase their traffic and earnings by providing improved and more economical service to shippers. (In its zeal to favor water and highway carriers, unimaginative regulation overlooks the fact that low earnings cannot put coastwise or highway carriers permanently out of business—because these carriers have no roadway to maintain—whereas railroad abandonment, when it happens, is for keeps.)

Regulatory traditionalism and lethargy are the principal obstacles to the further progress of piggyback and "containerization." They are not the only ones, though. Aside from the fact that technological standardization inevitably takes time, there is still a world of work to be done by railroads in the area of cost-finding and realistic rate-making. For example, some of the traffic TOFC service has attracted has come, not off the highway, but out of railroad boxcars. Is this because the TOFC rates are too low, or because the boxcar rates are too high?

The railroads have thousands of boxcar rates at minimum loads which represent a car only half-filled (or even less). At such minima, boxcar rates have to be relatively high, just to cover costs. When Plan III piggyback rates are made on a realistic cost basis (i.e., taking advantage of the absence of switching charges), they will often undercut boxcar rates, at half-load minima.

Such competition with standard boxcar service gives heartburn to many railroaders. This discomfort could likely be cured by providing a higher alternate minimum with appropriate rates for all boxcar traffic now handicapped by having only a half-laden minimum.

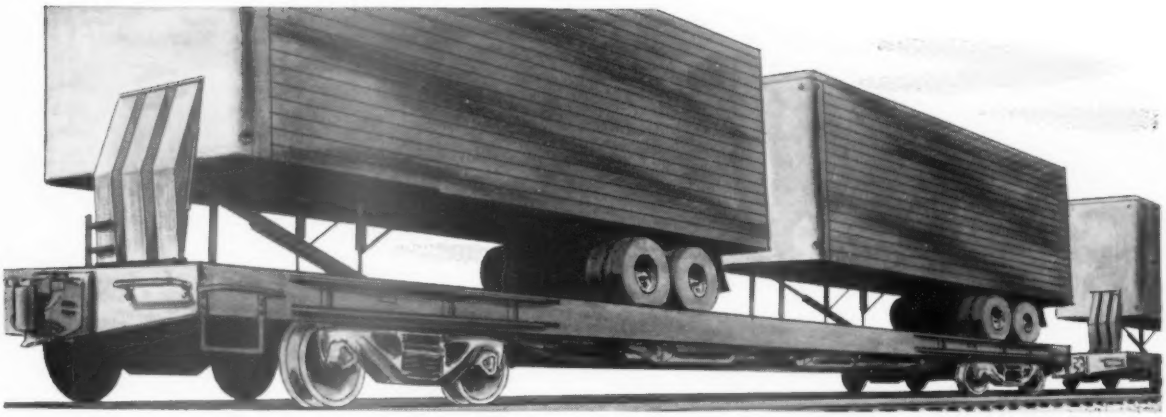
If the boxcar had a minimum with a scale of rates—as carefully calculated, as some of the Plan III piggyback rates have been, to earn a fair but not extortionate profit—then railroads could find out from actual experience which vehicle (boxcar or TOFC) was best fitted to perform various transportation jobs. The division of traffic as between the two types of vehicles—Plan III TOFC or conventional boxcars—can never be worked out economically, as long as the same standards of full loading and relative cost assessment fail to be applied to both vehicles.

It is easy to understand why railroads have been content to leave their Plan II rates at the same level, pretty much, as over-the-road truck rates. The service is usually about the same as over-the-road trucks provide—but, for the longer hauls, TOFC is less costly to produce than over-the-road movement. And, one of these days—in the public interest as well as in that of the railroads—Plan II rates should be made to reflect the superior economy of railroad service.

The attitude of the powerful Jimmy Hoffa, in penalizing truckers who use Plan I to move their trailers, shows very clearly that—to provide really comprehensive TOFC service—railroads are probably going to have to provide it themselves under Plan II.

Two recent governmental reports— "Rationale of Federal Transportation Policy" by Williams and Bluestone; and the Doyle report on National Transportation Policy—strongly endorse what they call "containerization."

There is thus plenty of official, as well as public, support for going forward relentlessly to extend piggyback service; and every reason, certainly, for railroads to press forward as vigorously as they can to extend it.

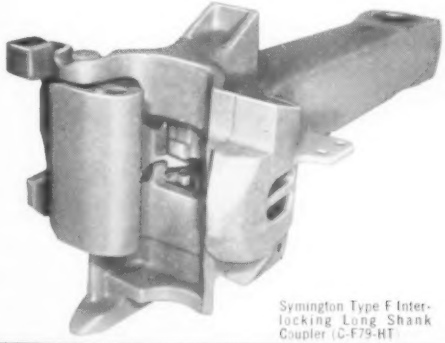


HIGH-SPEED PIGGYBACKS—COUPLED SECURELY BY SYMINGTON

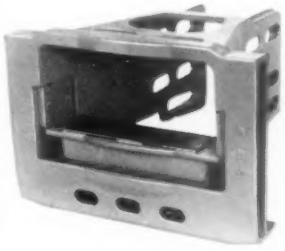
Today's long piggyback cars have special requirements when it comes to couplers and attachments. And Symington meets them with its Type F Interlocking Long Shank Coupler. Measuring 31 in. from horn to pivot pin hole, it is designed for extra-wide swing—13° each side of the centerline—and has brackets on the guard arm for angle cock attachments. Other features include—

- Coupling contour designed for minimum slack
- Easy, reliable operation
- Improved anti-creep protection
- Increased strength, greater fatigue resistance because of less slack
- Longer service life, less maintenance because interlock design minimizes vertical motion and slack
- Interlock feature prevents slipover, keeps cars in alignment
- Safety shelf designed to support mating coupler in event of pullout

Trailer Train is one of the well-known companies that are profitably operating piggyback cars equipped with Symington railway products. They look to Symington both for quality of product and for service—not only in couplers and attachments, but also in bolsters, truck frames, striking castings and other quality steel castings.

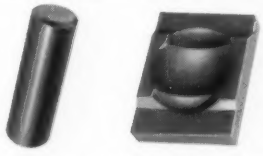


Symington Type F Interlocking Long Shank Coupler (C-F79-HT)



S-87 Striking Casting

Y-45 Yoke Standard Pocket



Y-47 Coupler and Yoke Pin • Y-46 Front Follower

Symington Wayne
CORPORATION
SYMINGTON DIVISION

WORKS:
DEPEW, N.Y.

New York
Chicago
Boston
Philadelphia
San Francisco
St. Louis

In Canada:
Adanac Supplies, Ltd.
Montreal, Quebec

TRAKODE®

Photo courtesy Linde "Ribbonrail."

increases welded rail benefits

Welded rail eliminates many rail joints, saves installation and maintenance costs, and extends rail life. But track circuits still need insulated joints. And these cost money.

Trakode, a GRS development, is the ideal signaling system for welded rail installations. Trakode permits very long track circuits—up to 11,000 feet now in service—thus eliminating a great many insulated joints.

Trakode saves you money in other ways too. Signal line wires and related costs are eliminated because signal controls and block information are transmitted *through the rails.* This all-relay system uses slow-rate coding for long relay life. High shunting sensitivity gives maximum protection.

Before signaling welded rail territory or investing in new or rebuilt signal lines—get the facts on Trakode. Ask any GRS representative.

TOOLS FOR TRANSPORTATION

GRS

GENERAL RAILWAY SIGNAL COMPANY

ROCHESTER 2, NEW YORK 3086

NEW YORK 17, N. Y. CHICAGO 1, ILL. ST. LOUIS 1, MO.